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Chapter 1.
Introduction

''There is no such thing as public opinion. There is only published opinion''
Winston Churchill (1874-1965)

The purpose of this dissertation is to gain insight into the interrelationships between news media, polls and opinions, as well as to study implications of these interrelationships for the opinions in the public. In a first part of the dissertation, the interrelationships are discussed, after which in a second part the implications are investigated. The research focuses on Belgium, and more specifically on Flanders, the northern Dutch-speaking region[1]. General impressions suggest an increasingly frequent use of poll results in the daily news and a close involvement of media in polling, although Flanders not (yet) shows such an intense polling situation as in the US or even in our neighbouring country the Netherlands (Mann & Orren, 1992; Streb & Genovese, 2004; de Boer, 1995; Butler, 2007)[2]. But, data on this relationship between news media and opinion polls has been lacking for Flanders. Therefore, the first part of the dissertation aims to contribute to fill this gap by providing empirical data about the frequency with which opinion polls are published by the Flemish news media and how they report on them, as well as about the involvement of the media in the published polls by commissioning or conducting them. Given these empirical data, theoretical insights about opinion formation, opinion measurement and the role of the media in opinion change will be integrated to study in

[1] Throughout this dissertation, it is referred to the Dutch-speaking 'Vlaamse Gewest (Flemish region)', which represents 58% of the Belgian residents; compared with 32% who live in the 'Waalse Gewest (Walloon region)', which includes both the French-speaking and German-speaking 'Gemeenschappen (Communities)'; while 9.8% live in the 'Brusselse Hoofdstedelijk Gewest (Brussels Capital region)' (FOD Economie, K.M.O., Middenstand & Energie, 2009).

[2] Illustrative quote from the Flemish newspaper *De Morgen*, 24/11/2006: 'Uit het Nederlandse electorale debacle vallen zeker lessen te trekken voor Vlaanderen. Laten we ons gelukkig prijzen dat we hier nog niet zo diep gezakt zijn. Tegelijk is het verontrustend dat dezelfde trend - meer peiling en minder nieuws, meer entertainment en minder debat - ook bij ons is ingezet.[Translation: Lessons can certainly be learned from the Dutch electoral disaster for Flanders. Let us consider lucky that we not yet sank that low. At the same time it is worrying that the same trend – more poll and less news, more entertainment and less debate – has also started with us]'

greater depth the intertwinement between news media, polls and opinions, as well as what it may imply for the public. To this end, the following questions will be addressed. How are individual opinions formed and changed? And to what degree can the news media play a role in these processes of opinion formation and change? Furthermore, what is the relationship between individual opinions measured by polls and the concept of public opinion? More specifically, to what degree does the methodology of opinion polls and in particular newer forms of polls influence the poll results obtained, which in turn may influence the indication of public opinion that is disseminated by the news media based on these poll results? Thus, in addition to influence from media on opinion, the quality of the poll methodology is taken into consideration, which is often neglected in research about poll effects.

Addressing these questions about the interrelationships between news media, polls and opinions is important before any implications of these interrelationships for the opinions in the public can be investigated in a second part of the dissertation. These implications include the impact of news media exposure, and more specifically poll exposure on individual opinions. Questions addressed are: To what degree do poll publications influence personal opinions directly? And to what degree do poll publications influence personal opinions indirectly, by first influencing perceptions of collective opinion? Whether and to what degree published opinion polls affect the public has been a much-debated subject (see de Boer & Brennecke, 2003; Hardmeier, 2008), but empirical results have been mixed, and hence remain inconclusive about possible poll effects on opinion (Blais, Gidengil & Nevitte, 2006; Faas, Mackenrodt & Schmitt-Beck, 2008). Therefore, the second part of the dissertation aims to contribute to the ongoing academic research about poll effects on individual opinions, by performing an empirical poll effects-study. This effects-study will take into consideration mediators to explore indirect effects in addition to direct effects, as well as moderators to explore interaction effects of third variables in addition to main effects from poll publications on opinion (Holbert & Stephenson, 2003; Baron & Kenny, 1986; Preacher & Hayes, 2008).

In this first chapter, the main research questions to be addressed are introduced and an overview is provided about how the subsequent chapters are organized.

1.1. Impression of a close relationship between news media and opinion polls

Since opinion polls emerged, the polls and the media have shown a unique and symbiotic relationship (Mann & Orren, 1992; Gawiser & Witt, 1994; Streb & Genovese, 2004; Shiraev & Sobel, 2006; Butler, 2007). Based on general impressions, two indications of this relationship seem to have occurred in Flanders as well. Firstly, it seems that there has been an increasing proliferation of opinion polls in the news, and secondly, that media are closely involved in opinion polling, by commissioning or even conducting the polls they publish. In this way, journalists not only use poll results as another news story, but polls and journalism get increasingly intertwined (Gawiser & Witt, 1994, pp. 1-2). This intertwinement may have consequences for the way in which media present poll publications in the news. And this news media presentation of opinion polls, in turn, may affect opinions in the public, because of exposure to these poll publications. People can infer from poll results how opinions about a particular topic are distributed among the general public and integrate this poll information in their perceptions of collective opinion. Close interrelationships between news media, polls and opinions have raised questions in academic and political discussions about the methodological quality of currently publicized opinion polls, as well as about the role of the media in (mis)using polls in the news[3]. Such arguments need to be substantiated by empirical research for Flanders.

That we often come across poll news and that media are involved in the polls published, as sponsor or pollster implies that the news media can select the poll topics to be published, such as related to current political affairs or the general public debate. Furthermore, due to the involvement of media in the polls, they can decide about the polling method, such as opting for those modes which can deliver quickly new poll results, and hence can produce daily and timely news based on poll results, such as by the online polling mode. Both the media-selection of politically-related poll topics and the media-use of online poll methods are illustrated with current examples of the Flemish polling situation.

[3] For example, at the 60th Annual WAPOR-conference, a panel discussion about 'the use and misuse of polls in politics and the media' was organized between media, academia and the political world (Chair: W. Donsbach) in Berlin, 19-21 September 2007. Furthermore, Flemish news media occasionally publish academic criticism on the relationship between media and polls, such as from Em. Prof. J. Billiet (survey methodologist, University of Leuven) in *De Standaard*, 13/10/2000, 'Het gevaar van slechte peilingen (The danger of bad polls)'; or political criticism on this relationship between media and polls, such as by politician Karel De Gucht (Open VLD, Flemish Liberals and Democrats) in *De Morgen*, 14/10/2006, 'Peilingen, pers en populisme (Polls, press and populism)'.

1.1.1. Media-selection of politically-related poll topics: contributing to public debate?

Although empirical data are lacking, it can generally be observed that media-related polls in Flanders have had a tradition of polling people's political preferences. One of the first news media that systematically began to commission polls on voting intentions in Belgium was the French-speaking quality newspaper *La Libre Belgique*[4]. From 1982 until now, this newspaper has organized a three-monthly political barometer, of which the results and their interpretations are disseminated by themselves and reproduced by other news media in Belgium, both French-speaking and Dutch-speaking. It seems that it is only in recent years that most of the Flemish newspapers and broadcasting channels jumped on the bandwagon of public opinion polling. For example, only since 2003, the political barometer of *La Libre Belgique* has been conducted in joint cooperation with *VTM* and *RTL-TVI*, commercial television stations of respectively Flanders and Wallonia, as well as with the Dutch-speaking popular newspaper *Het Laatste Nieuws,* and at a later stage, also with the Dutch-speaking quality newspaper *De Morgen*. Another joint cooperation has been established in 2002 to systematically poll voting intentions and popularity rankings of political candidates during different pre-electoral waves between the Flemish public television channel *VRT* and the Flemish quality newspaper *De Standaard* (and likewise between the French-speaking public television channel *RTBF* and the quality newspaper *Le Soir* in Wallonia). These joint cooperations indicate that media increasingly work together to poll the opinions of the public and to publish news reports about these polls that are commissioned by the news media themselves.

Apart from these examples of news media being involved in electoral polls, media in Flanders also tend to order polls about more general topics on an ad hoc basis, depending on the newsworthiness and political relevance of issues. For example, with regard to the national political crisis after the Federal elections of 2007, several newspapers and political television programs[5] ordered polls about the difficulties of forming a Federal government due to community disagreement between the regions. In particular, news media commissioned polls about people's opinions on a further step in

[4] Throughout this dissertation, a distinction is made between so-called quality or broadsheet newspapers in Flanders, and more popular or tabloid newspapers, based on De Bens and Raeymaeckers (2007).

[5] Polls were ordered, for example, by the newspaper *Het Nieuwsblad*, 25/08/2007, 'Vlaanderen radicaliseert (Flanders is radicalizing)'; the *VTM* television newscast, cf. *De Morgen*, 25/08/2007, 'Peiling: Kleine helft Vlamingen wil onafhankelijk Vlaanderen (Poll: less than half of the Flemings want an independent Flanders)'; and the political information program 'Koppen' broadcasted on the public television channel *Canvas*, 04/09/2007.

the state reform and more regional autonomy. These published poll results were used in the more general public debate about the possibility of an independent Flanders. By not only reporting upon the poll findings of external organizations, but also commissioning and/or conducting polls themselves on self-selected issues with political relevance, of which the results are subsequently covered in the news, poll publications may potentially play an important role in the public debate about current political affairs, which in turn may influence opinions in the public. Because of such potential influences, it is important that the polls reported in the news media are based on methodologically reliable opinion measurements, in order to give a valid indication of public opinion to audience and policy-makers. This brings us to the next section about the methodology of media-polls.

1.1.2. Media-use of online poll methods: creating timely poll news?

Flemish news media seem to be involved in opinion polls that are based on a wide variety of polling methods, ranging from traditional modes, such as telephone or face-to-face surveys, to newer techniques, such as Web-based surveys or sms-polls. Especially these newer forms of opinion polls have been criticized for not achieving sufficiently high standards of methodological quality in order to give a valid indication of public opinion (Billiet, 2000; 2003). For example, the polls of 'De Stemmenkampioen (The Voting Champion)', sponsored and mainly published by the popular newspaper *Het Laatste Nieuws* as from 2004 were considered highly controversial by politicians, journalists and intellectuals because of the use of an online access panel to collect regularly and even daily the opinions of the Flemish public, both on electoral and more general ad hoc topics. The large number of self-selected panel members (about 14.000) could not substitute for the representativeness of the poll results to the general population. Due to the persistent criticisms on this poll methodology, the particular poll ceased to exist in 2007[6]. Another relatively recent polling phenomenon in Flanders concerns the daily opinion questions that appeared as from 2004 at Websites of various news media, and in particular at the Website of the quality newspaper *De Standaard Online*. Despite methodological flaws of these Website-polls, such as the lack of Internet coverage and a self-selected sample (e.g. Couper, 2000; Dillman, 2000), which are important hurdles to use the poll results as a valid indication of public opinion, news media seem to be involved in online polls, as

[6] The polls were performed under the supervision of Frank Thevissen, who was at that time professor at the VUB (Free University Brussels). First publication about the poll, cf. *Het Laatste Nieuws*, 06/05/2004, 'De Stemmenkampioen: eerste uitslagen' (The Voting Champion: first results). Publication about the end of the 'most controversial poll in Flanders', cf. *Knack*, 26/02/2007, 'Stemmenkampioen wordt afgeschaft (The Voting Champion ceased)'.

sponsors or pollsters. This might indicate that media are especially interested in those poll methods that can produce very quickly, even within one day, new poll results on a timely topic. In this way, media can frequently create news reports based on opinion polls themselves. A possible explanation may be that from a commercial point of view, news media need to publish news before their competitors do. Nowadays, this requires a high level of rapidity for media to produce news, for example because of continuous online updates at news media websites, at news blogs on the Internet that permanently publish news or even at newly emerged social media (such as Twitter or Facebook). Technological developments in online polling make it possible for news media to deliver very quickly new poll results and opinion distributions on timely topics about which media might wish to publish news. Based on this hypothesis, media can 'create' news with commissioned polls on ad hoc topics and play a role in the broader public debate about that topic. Other plausible reasons why news media may be especially interested in the seemingly factual poll results, is because polls can give media the illusion of grasping reality and poll figures can be used to support subjective news stories with apparently 'objective' numbers about 'vox populi' (or the voice of the people).

1.1.3. Poll news: influence on opinions in the public?

The general impression that news media commission polls themselves on self-selected issues with political relevance and that they are involved in opinion polls based on a wide range of polling methods with a varying degree of methodological quality raises the question of whether poll news influences opinions in the public. The worldwide introduction of legal bans on poll publications indicate that politicians and government officials assume that poll publications have direct effects on opinions and even behaviour, especially voting. However, the World Association for Public Opinion Research recently published a press release about the violation of the principles of freedom of research, information and press because of a renewed legal ban in Greece on published electoral polls (WAPOR, 10.08.2009). Also in Belgium such a ban existed between 1985 and 1991 (Voorhoof, 1992). These bans on poll publications illustrate that a close relationship between news media and opinion polling raises the question about what implications this relationship may have for the opinions in the public, and in particular what influence opinion polls published by the news media may have on the opinions in the public.

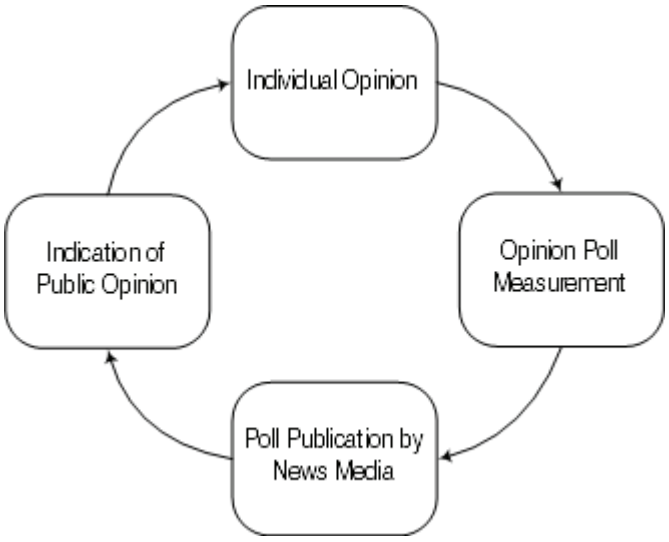
Both news media and opinion polling can potentially influence opinions. Indeed, news media disseminate information about people's opinions, but at the same time they can

also play a role in shaping public opinion. Similarly, opinion polling can be used to monitor the opinions in the public, but also to manufacture public opinion (Splichal, 2001, pp. 2-3). However, before these influences of media and methodology on opinion can be considered, a good understanding is required of the basic characteristics of individual opinions and more specifically how they are formed, as well as what role the media and the poll methodology may play in the formation and expression of these individual opinions. Therefore, the theoretical framework of this dissertation is mainly based on perspectives about individual opinion formation and expression in a survey context, as well as about potential influences from media and methodology on this opinion formation and expression.

1.2. Underlying idea: infinite loop

The basic underlying idea of this dissertation can be depicted as an infinite loop from individual opinions, measured by opinion polls and subsequently published by the news media, which gives an indication of public opinion that can influence individual opinions, which again can be measured by opinion polls and published by the news media to give an indication of public opinion. This infinite loop is depicted in Figure 1-1.

Figure 1-1: Infinite loop between individual opinion, poll measurement, news media publication and public opinion



Individuals have existing opinions and form new opinions, which can be measured by opinion polls. The poll methodology may have an influence on the expression of these opinions in the form of survey responses (e.g. by the poll context). Subsequently, these poll results can be published by the news media, who present and interpret them in a

particular way. This poll publication may give people an indication of public opinion, and become part of a broader public debate. This, in turn may influence individual opinion formation in the public, which again can be measured by opinion polls. In this way, an infinite loop is created between individual opinions, poll measurement, news media publication and public opinion. It can be considered as the basic underlying idea of this dissertation. In particular, the interrelationships within this loop between news media, polls and opinions will be studied, as well as possible effects of media and methodology on individual opinions. The next section provides an overview of how the subsequent chapters are structured.

1.3. Chapter Overview

The dissertation is structured in two parts. The first part aims to study the interrelationships between news media, opinion polling, individual opinions and public opinion in the Flemish region of Belgium (Part I), while the second part focuses on possible effects of poll publications on individual opinions in the Flemish public (Part II).

The first part covers the interrelationships between news media, polls and opinions in three chapters. Firstly, Chapter 2 focuses on the interrelationship between news media and opinion polls. The chapter begins with a historical review of the context in which this intertwinement has been established and subsequently evolved over time. This provides essential background information about the developments of systematic opinion polling, its methodology, as well as its relationship with the news media. Given these historical insights, the chapter subsequently presents the results of an empirical study of the current state of the intertwined relationship between news media and opinion polling in the Flemish region of Belgium, because such empirical data about Flemish poll news has been lacking. More specifically, a content analysis of Flemish newspaper articles about opinion polls, published during recent years (and in particular during the period between 2000 and 2006) was performed. This provides essential information about media-attention to and media-involvement in opinion polls, as well as about the manufacturing role of the news media in publishing news based on opinion polls. It is an important initial study before any effects of exposure to poll publications can be studied.

Secondly, Chapter 3 covers the interrelationship between individual opinions on the one hand, and media and methodology on the other hand. To this end, theoretical perspectives on individual opinion formation and expression in a survey context are used

to address initial questions such as, what is an individual opinion, as well as how do people acquire new information and implement it in their opinion. The theoretical chapter especially reviews literature about the role that the media can play in individual opinion formation and change, because in the empirical second part of the dissertation the impact of poll publications on opinions will be investigated. Therefore, the literature review in Chapter 3 sheds light on media-effects, and in particular poll effects, as well as individual and contextual characteristics that may moderate these effects. Moreover, a particular moderator, perceptions of collective opinion will be considered through which media may affect personal opinions indirectly.

Thirdly, Chapter 4 covers the interrelationship between individual opinions and public opinion. The news media publication of poll results may not only affect the formation of individual opinions, but may also contribute to the creation of the broader concept 'public opinion'. In particular, the way in which news media report and produce poll results may shape or create a particular image of public opinion (Suhonen, 2001; Herbst, 1998). Mainly because of the media-publication of poll results, a tensed relationship has been established between aggregated poll responses (i.e. individual opinions) and the broader concept of public opinion. Therefore, Chapter 4 first delves into the conceptualization of public opinion, after which the tensed relationship between poll results and the representation of public opinion is examined by three case studies of relatively recent polling methods: push polls, online question-of-the-day polls at news media Websites and online access panel polls. These polling methods were selected because of their potential influence on opinions.

These three chapters (Chapters 2, 3 & 4) constitute the first part of the dissertation about interrelationships between news media, polls and opinions, both individual and public opinion. The second part of the dissertation builds further upon these insights gained from the first part and focuses on empirical effects from exposure to poll publications on individual opinions. As a hinge between these two parts, Chapter 5 will highlight key aspects of Part I about interrelationships between news media, polls and opinions, and introduce Part II about effects from poll publications on individual opinions.

The second part is subdivided in three chapters, which each contribute to the empirical effects-study of exposure to poll publications on individual opinions. Firstly, Chapter 6 studies effects from exposure to *general news media* on opinions by a path analysis of survey data, and more specifically of the *European Social Survey* data, which are

representative for the Flemish public. Besides other sources, news media may influence opinions by their general news content and in particular by their use of opinion polls. In addition to direct effects from news media exposure on individual opinions, indirect effects on opinions through perceptions of collective opinion will be empirically investigated by the path analysis.

Secondly, to study effects from poll publications on opinions further, Chapter 7 investigates effects from controlled exposure to *specific poll information*. To this end, an experiment is integrated into a survey in order to compare personal opinions and perceptions of collective opinion between a randomly selected group of respondents exposed to poll information in the course of the survey and another random group not exposed to this poll information. In addition to main effects from poll information on opinions, differential effects due to individual characteristics will be explored.

Thirdly, Chapter 8 integrates insights from the analysis of survey data and the experimental data of the previous chapters to study effects from exposure to specific poll publications *in a natural setting*. To this end, a natural field experiment is conducted, which consists of quasi-experimental survey about natural exposure to specific poll information that previously appeared in the Flemish news media. The survey questionnaire is based on a content analysis of newspaper articles and television news items about polls published previous to the survey. This provides specific indicators of poll exposure and knowledge of poll results that can be used in addition to the more general indicators of media-exposure and poll attention used in Chapter 6. Furthermore, this information from the survey also enables to post-hoc classify respondents into a quasi-experimental and quasi-control group, of which the personal opinions and perceptions of collective opinion can be compared to discover poll effects in a more natural setting than the experiment reported in Chapter 7, in which poll information is provided by the researcher.

Finally, to summarize the empirical findings of Part II about effects from poll publications on individual opinions in the light of theoretical perspectives of Part I about interrelationships between news media, polls and opinions, Chapter 9 presents an overall discussion and conclusion. This chapter aims to overarch substantive findings of both parts of the dissertation and to discuss methodological limitations and avenues for further research, as well as to provide recommendations for pollsters, news media, policy-makers, public and scholars in the field of public opinion research.

Part I
Interrelationships Between News Media, Polls and Opinion

Chapter 2.
Poll News: Relationship between News Media and Opinion Polls

Within this first part of the dissertation about interrelationships between news media, polls and opinions, the present chapter focuses on the relationship between news media and opinion polls. As a first approach to study this relationship, the chapter begins with a historical review of the context in which this intertwinement has been established and subsequently evolved over time. The main aim of this historical review is to gain insight into the advent and rise of systematic opinion polling, with its methodological developments, as well as its evolving relationship with the news media. Based on these historical insights, a second part of this chapter presents an empirical analysis of the current state of the intertwined relationship between news media and opinion polls in a specific region, namely Flanders in Belgium during recent years (2000-2006). By a content analysis of newspaper articles, general questions are addressed about the Flemish news media-attention to and media-involvement in opinion polls, after which specific expectations are studied about a possible manufacturing role of the news media in publishing poll news. The results of this content analysis were published in the *European Journal of Communication* (Sonck & Loosveldt, 2008) and were used in an article about political polls in *Samenleving en Politiek* (Billiet & Sonck, 2009)[7].

Studying the relationship between news media and opinion polls on the basis of a historical review and empirical analysis of Flemish news media data is important before theoretical perspectives and empirical data about potential influences from media and

[7] Earlier versions of these articles were an international conference paper: Sonck, N. & Loosveldt, G. (2007). Media*, Polling and Public Opinion: Making News Based on Public Opinion Polls: the Flemish Case.* Paper presented at 60th WAPOR Conference "Public Opinion and the Challenges of the 21st Century", 19-21 September, Berlin; as well as a national conference paper: Sonck, N. (2007). *Analyse van de Rapportering van Publieke Opiniepeilingen door de Vlaamse Kranten in de Periode 2000-2006*. Paper presented at Dutch-speaking 'Politicologenetmaal', 31 May-1 June, Antwerp (BE).

methodology on opinion formation and expression can be considered. Indeed, before potential influence of a poll's methodology on opinion responses can be examined (cf. Part I, Chapter 4), as well as potential effects from poll publications on individual opinions (cf. Part II, Chapters 6, 7 & 8), it needs to be clear how news media and opinion polls are related, and how this relation manifests itself in the manufacturing of poll news.

2.1. The intertwinement of news media and public opinion polling: a historical review

This section aims to explore the historical roots of the current state of public opinion polling, and in particular methodological poll developments, as well as the role of the media in opinion polling. In addition to a historical review of polling in the US, which was the cradle of systematic public opinion polling, impressions about the Belgian, and in particular Flemish polling situation are considered, though empirical research data are lacking. Finally, the legal ban on poll publications is discussed, which was introduced in Belgium because of the general presupposition that poll publications have potential effects on the public.

2.1.1. The cradle of public opinion polling (US; 1936)

As the forerunners of public opinion polls can be considered the census surveys, which were designed to count the number of people in a specific geographic area. Etymologically, the word 'poll' was derived from an old English word for head, because the early polls were a matter of counting heads. References to such polls can be found from Biblical times until today (Gawiser & Witt, 1994, pp. 15-16). However, the American presidential election year 1936 has been generally considered as the moment at which pollsters such as Gallup systematically began to poll people's voting intentions in the US. Since then, (pre-)electoral polls have spread over the world (Butler, 2007, p. 35). Table 2-1 presents an overview of this international trend in conducting systematically electoral polls. In Belgium, systematic pre-electoral polling was introduced in the mid-1950s (Butler, 1996, pp. 238-239). While this introduction in Belgium was later than in some other European countries, such as France, United Kingdom and the Netherlands (1940s), it was earlier than in other European countries, such as Ireland, Portugal and Spain (1970s). Apart from the systematic conduct of electoral polls, older references to polls about general topics can be found for Belgium (e.g. establishment of polling institute Insoc by Jacquemyns in 1946). These are described in more detail in Section 2.1.4. But

first, the methodological developments in the quality of opinion polls, as well as the historical roots of media-involvement in opinion polling are respectively considered.

Table 2-1: Starting years of systematic pre-electoral polling by country

Year of first pre-electoral poll	*Country*
< 1940	United States
1940-1949	Canada, France, Denmark, Sweden, United Kingdom, Australia, Netherlands, New-Zealand, Italy, Norway
1950-1959	Finland, Greece, Germany, *Belgium*
1960-1969	Japan
1970-1979	Ireland, Portugal, Spain
1980-1989	India
≥ 1990	South-Africa

Source: *Table based on Rohme, 1992 (in Butler, 1996)*

2.1.2. Methodological poll developments

Generally, the first systematically conducted opinion polls were either market research on what products consumers would buy or straw polls to predict political elections (Gawiser & Witt, 1994, pp. 15-16). Such straw polls are currently evaluated in a quite pejorative way, mainly because no probability sampling techniques were applied in the early attempts to measure voting intentions. A typical example of a straw poll was that readers were asked to return a newspaper coupon with their preference for one of the eligible political candidates. Although large numbers of readers participated, the pollsters did not take the representativeness of the sample to the general public into consideration (Mann & Orren, 1992, pp. 1-4; Streb & Genovese, 2004, pp. 9-11).

However, two major 'polling mistakes' have led to methodological improvements (Gawiser & Witt, 1994). Firstly, the general-interest magazine the *Literary Digest* completely failed in predicting the election outcome in 1936, mainly because of the sampling design: 10 million ballots were sent by mail to persons from the magazine's subscriber list, supplemented with people from automobile registration lists and telephone directories. This resulted in a social class bias, due to an overrepresentation of the highly educated, middle- and high-income Republicans who could afford a telephone or a car in the years of depression. At that time, the sample size was considered the most important aspect of measurement quality, rather than the representativeness of the obtained poll results to the general population. However, Gallup simultaneously conducted a smaller survey with a demographically representative sampling design and correctly predicted Roosevelt's victory in 1936 (Streb & Genovese, 2004, pp. 9-11; Butler, 2007, pp. 36-37; Gawiser & Witt, 1994, pp. 18-19). Secondly, another major polling mistake was that the pre-election

poll figures of the 1948 American presidential election significantly deviated from the actual election outcome. The three most important pollsters of that time, Gallup, Crossley and Roper predicted in their polls the exact opposite of the election outcome (see Shiraev & Sobel, 2006, p. 25). Because the poll interpretations and analyses published in the media before Election Day presented a seriously biased image of the public support for the political candidates, journalists became somewhat more critical about opinion polling. Another important consequence was that the major pollsters made attempts to improve their sampling techniques, the identification of likely voters, the allocation of undecided voters and the general timing of polls before elections (Gawiser & Witt, 1994, pp. 21-22).

Although especially pre-electoral polls on voting intentions have contributed to the methodological development of public opinion polls, also other, more general topics have been polled. For example, already before World War II, the American Department of Agriculture organized opinion surveys and made attempts to improve sampling methods. Moreover, in 1937, the journal for public opinion research, '*Public Opinion Quarterly*', was founded and in 1941 the NORC (National Opinion Research Center) was established. Six years later, the AAPOR (American Association for Public Opinion Research) was founded, which has been a worldwide influential public opinion research association until now (Gawiser & Witt, 1994, p. 19). Additionally, survey research became an area of academic interest for researchers such as Lazarsfeld, Berelson and Gaudet (1944), as well as the University of Michigan's National Election Studies (Butler, 1996, p. 238). These examples illustrate the process of institutionalization of public opinion polling. Next, the historical roots of the close relationship between polling and the media are explored.

2.1.3. Media-involvement in opinion polling

Since the advent of the very first opinion polls in the US, the media have played an essential role. Already in the 1800s, the print media were involved in public opinion polling, though in an embryonic form. Several American newspapers and magazines, such as the *Harrisburg Pennsylvanian*, *Raleigh Star*, *Farm Journal* and *American Watchman* conducted straw polls to measure candidate strength in election periods. Particularly, the *Harrisburg Pennsylvanian* is considered as the first news medium which conducted electoral polls as early as the presidential election of 1824, of which the poll results were disseminated to its audience (Mann & Orren, 1992, pp. 1-4). Although public opinion polling became increasingly popular for the media during the 19th century, polls remained quite local phenomena. It was not until the mid-1930s that polls, and in

particular presidential polls, received extensive media coverage (Streb & Genovese, 2004, pp. 9-11).

During the 1930s, the pioneers of systematic opinion polling were commonly involved in relationships with the media. For example, Elmo Roper polled for *Fortune magazine*, Archibald Crossley for *the Hearst association* and George Gallup for several newspapers. Between the 1930s and 1960s, this relationship between opinion polling and news media was quite loose, since there was mostly a clear distinction between the pollsters, who conducted the polls, and the news media, which reported upon the poll results. However, as from the 1960s and 1970s, the expanding American television networks became increasingly involved in the polling process itself. In 1967, the American *CBS* even created its own in-house polling project, after which also *NBC* and *ABC* developed such internal polling units. It is from that time on that news media not only commissioned, but also conducted systematically their own polls (Mann & Orren, 1992, pp. 1-4; Streb & Genovese, 2004, pp. 9-11; Ladd & Benson, 1992, pp. 10-21). It did not take long before the major news media organizations formed partnerships with each other to conduct jointly public opinion polls on a regular basis, such as *CBS News* and the *New York Times*. By not only publishing news stories on external poll results, but also financially sponsoring and even conducting opinion polls themselves, media can decide on important methodological poll aspects, such as the timing of data collection, the poll topics and the formulation of the questions (Gawiser & Witt, 1994, p. 27; Ladd & Benson, 1992, p. 19). These examples illustrate that in the US, a close and intertwined relationship has been established between news media and the methodological opinion polling process.

An important external stimulus for the establishment of this intertwined relationship between news media and polling was Philip Meyer's work 'Precision Journalism' (1973), in which Meyer suggested that media should incorporate more social scientific methods in their news reporting. He also organized workshops for newspaper reporters to analyze public opinion data. The participating journalists felt it was 'both necessary and possible' to conduct their own polling (Mann & Orren, 1992, pp. 1-4). As a result, the newsworthiness of quantitative poll information became increasingly recognized by journalists (Weaver & McCombs, 1980, p. 478). Furthermore, news media integrated the seemingly objective and neutral poll results into their news stories to show their independence, objectivity and non-partisanship (Butler, 2007, pp. 35-36). Indeed, polls became an important information source for journalists not in the least because polls

obtained a 'scientific aura'. By using polls, news reporters could quantify people's subjective opinions in a more 'objective' way (Salmon & Glasser, 1995, pp. 443-444).

Consequently, the volume of poll reports disseminated by the media has risen, not only in the US, but on a worldwide scale (e.g. for the *US*, Miller & Hurd 1982; Ladd & Benson 1992; for *Great Britain*, Worcester 1980; for *Canada*, Andersen 2000; for *Australia*, Smith & Verall 1985; for *Israel*, Weimann 1983; for *Germany*, Brettschneider 1997; for *the Netherlands*, de Boer 1995). For example, in the US, the number of poll stories significantly increased from 3 to 259 between 1972 and 1988 (Miller & Hurd, 1982, p. 245; Ladd & Benson, 1992, p. 19). Although Lavrakas, Holley and Miller (1991) found a decrease of 20 percent in the actual number of pre-election poll stories between 1984 and 1988 by focusing on the pre-electoral news coverage of four major newspapers, they suggested that there was a sizeable increase in the volume of poll publications for the smaller newspapers and television stations (Lavrakas, Holley & Miller, 1991, p. 152). Furthermore, in Germany, the frequency with which poll reports were published by the daily newspapers in the twelve weeks before each federal election increased significantly from 65 poll reports in 1980 to 168 poll reports in 1994 (Brettschneider, 1997, pp. 251-252). Similarly, in the Netherlands, the total number of poll articles in the newspapers significantly increased between 1964 and 1968, as well as between 1976 and 1980. In the eighties, however, it seems that this rising trend slightly dropped (de Boer, 1995, pp. 130-131). For Belgium, and in particular Flanders, systematic research data on this matter is lacking. Nevertheless, some general impressions are presented next.

2.1.4. The Belgian/Flemish polling situation

Although the next empirical section focuses on polls in Flanders, the historical review of polls makes references to Belgium as a country, as well as to the Flemish region. Given the origin of and subsequent trends in public opinion polling in the US, several questions can be raised concerning the Belgian, and in particular Flemish polling situation. For example, when did Belgium begin to conduct systematic opinion polling and who were important predecessors? Was the focus of the early polls also on monitoring the electoral race, as was the case in the US? Furthermore, what has been the academic and commercial interest in opinion polling? Has Belgium always been embedded in large-scale European polling projects? And last but not least, what has been the relationship between news media and opinion polling in Belgium?

First of all, some important predecessors of public opinion research in Belgium can be mentioned. For example, it was a Belgian, Adolphe Quetelet (1796-1874), who introduced mathematical and statistical concepts in the social sciences. In his most influential work '*Sur l'homme et le développement de ses facultés ou essai de physique sociale'*, Quetelet (1835) described the 'average man' on the basis of mean values of normally distributed variables. Following Quetelet's methods, the Belgian Edouard Ducpétiaux (1804-1868) focused his social research on the situation of the working class. In 1854, he conducted the first of a series of household-budget studies, which describe in detail the structure of the average working household costs in Belgium. In fact, Quetelet collected a large part of these data (Ducpétiaux, 1855). In the subsequent studies, the focus was still on the working class, for example about the wages of the working class in 1891 or about their eating habits in 1910. On the basis of these budget-studies, the German Ernst Engel (1895) published over-time comparisons and derived his 'Law of Engel' that the relative expenses for food decrease if the disposable income increases. Furthermore, the index of consumer prices has been (re)calculated on the basis of these budget-studies since 1920 to represent the consumption of Belgian families and the over-time evolution of the living costs. Currently, these budget-studies are organized at a yearly basis, by the national bureau of statistics in Belgium (by the FOD Economie, K.M.O., Middenstand & Energie).

Although there were some important predecessors of social-scientific research in Belgium, the first examples of systematic public opinion polling outside the US were found in other European countries. For example, in the United Kingdom in 1937, the 'British Institute of Public Opinion' was established by Harry Field, an associate of Gallup, and Henry Durant of the London School of Economics. France was the next European country in which the journalist Alfred Max founded in 1938 the 'Centre d'Etudes de l'Opinion Publique' as a branch of Gallup's American Institute of Public Opinion (AIPO). Soon, this French institute had a contract with the daily newspaper 'Paris-Soir' to commission and publish opinion polls. At the same time, the French professor Jean Stoetzel founded l'Ifop (Institut Francais d'Opinion Publique) in cooperation with an associate of Gallup from the University of Columbia. Another West-European branch associated with Gallup International was established in the Netherlands by Jan Stapel and Wim de Jonge in 1945 (NIPO). Whereas these European public opinion institutes were established in direct cooperation with the American polling pioneer Gallup, in four other Western European countries public opinion institutes were established without this direct American intervention. Belgium was one of them, besides Spain, Germany and Italy.

Indeed, in Belgium it was Professor Guillaume Jacquemyns of the Brussels University who founded the first Belgian public opinion institute in 1946: the 'Institut Universitaire d'Information Sociale et Economique' (Insoc). It was an inter-university cooperation between the universities of Brussels, Gent, Luik and Leuven. The poll results were bimonthly published in French-speaking reports entitled 'Bulletins d'Informations'. For example, in the first publication of these Insoc-reports, the objectives and methods of the Institute were formulated, such as its main aim to conduct public opinion research and market research. The methodological details of the conducted studies, however, were only disclosed in very general terms, such as the aim of obtaining a representative sample of the population by random selection (Jacquemyns, 1946a). The subsequent publications of the Institute contained frequency tables for specific opinion questions that were surveyed in the general public. The results were mostly sub-grouped by variables such as age, gender, living area and occupational categories. The poll questions were formulated by the director Jacquemyns himself, the academic council of the Institute or by associated members. An example of one of the first questions surveyed in 1946 was '*Are you favourable for women's voting rights in the legislative elections?*' (voting rights for women were only introduced in 1948 in Belgium) or another question was '*Do you trust the UN-action to preserve peace?*' (Jacquemyns, 1946b). These examples illustrate that the first opinion polls were occasionally related to political discussions which were topical at the moment of polling. Besides opinions about political issues (e.g. governmental politics, formation of federal state), Insoc polled about specific social (e.g. strikes, social security) and economic (e.g. consumption, costs of living) topics (Jacquemyns, 1950).

Mainly because of differences in the structure of the political system between the US and Belgium, the early opinion polls in Belgium were not focused on monitoring the electoral race. An example of an early poll with an electoral topic was conducted in 1953 by Insoc, which studied how preoccupied voters were with politics during non-electoral and electoral periods, whether their vote was based on a party-program or a candidate's personality, as well as whether they preferred to vote for a party-list or a specific candidate (Jacquemyns, 1953). It seems that the early polling system in Belgium was adapted to its electoral system. In contrast to the US, where two candidates compete to be elected as the next president, the Belgian electoral system consists of a proportional repartition of votes between the lists of several parties. Accordingly, one of the purposes of the first electoral polls was to organize a pre-voting process within the political parties to structure the party-lists of eligible candidates before the actual voting. Especially the

PSB ('Parti Socialiste Belge') used this internal pre-electoral polling technique regularly. For example, in 1958, 9000 members of the Brussels PSB participated in such an internal poll, which represented 2.7 percent of their actual voters at that time (Philippart, 1974). Furthermore, because the system of a list-vote in Belgium raised questions about its democratic value, Stengers and Philippart (1959) conducted a semi-election to investigate whether voting for a predetermined list in which candidates are ordered by the party would obtain the same results as voting in complete liberty. For this reason, socialist voters were asked to put crosses besides the political candidates of the Brussels PSB-party they knew and why they voted for a particular candidate. It was found that respondents generally knew very few candidates on the party-list and that they mainly chose for candidates they previously had heard of. Moreover, the semi-election yielded largely similar results as the actual election with list-votes (Stengers and Philippart, 1959).

Besides these examples of polls about the structure of the electoral system, post-electoral research about people's voting motivations has been conducted in Belgium. For example, the fist post-electoral poll was performed the day after the elections in 1968 by UNIOP/INUSOP ('Universitair Instituut voor Opiniepeilingen / Institut Universitaire de Sondage d'Opinion'). This polling institute was also involved in the first large-scale post-electoral study in Belgium, commissioned by French-speaking political scientists in 1974 (AGLOP/GLOPO-survey). This study was based on a sample of 1521 respondents (of which 522 Flemish persons, 502 Walloons and 497 persons from Brussels). Results were published in the journal 'Res Publica' (1975) by authors such as Frognier about the left axis (Frognier, 1975a) or the social and religion embedment of the votes (Frognier, 1975b), as well as Dewachter (1975) about the perception of the most important problem Belgium faced at that time.

The examples so-far mentioned (e.g. Insoc-polls, AGLOP-survey) illustrate the early academic interest in public opinion research in Belgium. Indeed, different sociological research institutes have conducted opinion research. First of all, the 'Institut de Sociologie Solvay' in Brussels (founded in 1901, which is currently known as the Institut de Sociologie of the ULB) performed opinion research at an academic level in Belgium. Under impulse of its director in 1960, Guy Spitaels, results of social scientific research about the 'social life of the Belgians' were reported in the journal 'L'Annee Sociale'. Second, the 'Centre for Social Studies' at the University of Leuven has conducted public opinion research (established in 1955, which has been reorganized to CeSO; Centre for Sociological Research at present). Especially Frans Van Mechelen with his research on

cultural participation has contributed to the public opinion research at this university. Third, the 'Seminar for Sociology' in Gent and Luik (established in 1931) were occupied with early public opinion research in Belgium (Jacobs and De Wit, 2004, pp. 40-42).

Besides academic opinion research, most of the other early public opinion studies in Belgium were predominantly concerned with commercial market research (Van Mechelen, 1956, p. 130). For example, the clients of the commercial research bureau 'Doxometrie', established by Lacoste in Brussels in 1949, were mostly private firms and organizations. They published a quarterly bulletin with an overview of the results entitled 'Etudes de marchés par la méthode des sondages' (Unesco, 1962). Other commercial research agencies performing opinion research in Belgium in the 1950s were for example, Nielsen (which opened a branch in Belgium in 1954), W. Smit, Jakobs, Opinion Bureau and Obic (Van Mechelen, 1956, p. 130). Currently, most of the Belgian commercial research agencies are organized within 'Febelmar', a professional association of marketing research. This association started with six members in 1980 and currently represents 27 institutes (or 75% of the commercial research market). Its main objective is to develop and promote market research and opinion polling in Belgium, by correctly implementing deontological rules about collecting, analyzing and publishing results (Febelmar, 2007; 2009).

At the European level, Belgium has been included in several large-scale public opinion projects. The first European public opinion study commissioned by the European Commission in 1962, for example, was simultaneously conducted on the basis of a similar questionnaire by polling agencies in Germany (EMNID), France (Ifop), Italy (DOXA) and the Benelux-countries (NIPO). In these six European countries, a total of 6334 persons were personally interviewed, of which 770 randomly selected persons in Belgium by 200 interviewers. The survey contained questions about opinions on the 'European idea', knowledge and evaluation of the European institutions and their realizations (Gallup International, 1962). Since 1973, the European Commission has monitored the evolution of public opinion in the EU-member states (and hence also in Belgium) on a regular basis by the 'Eurobarometer', primarily in order to help preparing documents, decision-making and evaluation of the EU-work. Their studies mainly address topics concerning European citizenship, such as European enlargement, social situation, health, culture, information technology, environment, the Euro, defense, etc[8].

[8] Information about the Eurobarometer can be found online at the Website: http://ec.europa.eu/public_opinion/index_en.htm.

Finally, similar to the US, the Belgian news media have been interested in opinion polling. Because information about Belgian public opinion polls was only systematically catalogued for the period between 1974 and 1991 (by the Seminar of Political Sciences at the University of Gent; Reynaert, 1992), early information about media-polls is difficult to obtain. The first registered opinion poll commissioned by news media was a poll ordered by the French-speaking newspaper *Le Soir* and the Dutch-speaking newspaper *De Standaard* about the political events of 1974 (the fall of the Leburton-government and the elections in March). This political poll was conducted during six days by the polling institute UNIOP-INUSOP based on a sample of 1500 Belgians. Eight questions were asked about voting intentions, the government, the prime minister and the age of voting. Results were published in the two commissioning newspapers. After the elections, another poll was commissioned (and published) by the same newspapers, conducted by the same polling institute about the impact of the electoral campaign, the voting behaviour and government formation. Three and seven months later, they again polled the opinions of the Belgian public about political events. In the mid-1970s, especially the French-speaking newspaper *Le Soir* and the Dutch-speaking newspaper *Het Laatste Nieuws* jointly commissioned public opinion polls about political (e.g. voting intentions, popularity of candidates) and socio-economic issues (e.g. unemployment, strikes), of which the results were published in their newspapers. Since 1982, the French-speaking newspaper *La Libre Belgique* has systematically conducted electoral polls, on a three-monthly basis. During that time, other print media such as magazines were occasionally mentioned in Reynaert's catalogue (1992) as poll commissioners. For example, the political magazine *Knack* was in the early days mentioned in 1975 (a poll about the merging of communities), 1979 (a poll about how Dutch-speaking and French-speaking residents of Belgium perceived each other) and 1981 (poll about governmental finances). The magazine *Humo*, on the other hand, was first mentioned in the 1980s (a poll about the crisis in 1981; about politics in 1983; about aids in 1986 and about terror in 1986). Other magazines were rarely mentioned (such as *Marie Claire* for a poll about women and the crisis in 1981), possibly because they mainly focused on lifestyle polling, rather than political opinion polling (Reynaert, 1992).

These examples of media-polls illustrate that the Belgian news media have primarily *commissioned* opinion polls. Indeed, in contrast to the US, where news media have integrated polling units in their editorial staff since the mid-1960s, Belgian news-media redactions have not (yet) established such internal polling departments. This is probably

due to scale differences between the American and Belgian news media. For example, the news redaction of *ABC News* in the US is much larger than the news redaction of the public broadcaster *VRT* in Flanders. The former broadcasts news for more than 300 million residents, while Flanders has about six million residents. However, various news-media organizations in Flanders seem to commission polls regularly with the same pollster. For example, the public broadcasting channel *VRT* and the quality newspaper *De Standaard* have jointly commissioned polls with the commercial research organization *TNS Media* on a regular basis. Similarly, the newspapers *La Libre Belgique*, *Het Laatste Nieuws*, *De Morgen*, and the television channels *VTM* and *RTL-TVI* have jointly ordered electoral polls on a three-monthly basis with the commercial research organization *Ipsos Belgium* (Febelmar, 2007). As aforementioned, by financially sponsoring opinion polls, news media can choose who to poll, when, on what subject and with what questions.

Apart from commissioning polls, some current examples seem to indicate that the Belgian news media are also interested in conducting polls themselves. Especially technological improvements and a rising Internet penetration in everyday life make it possible for media and other organizations to easily conduct opinion polls themselves (Vehovar et al., 2002). For example, the commercial research bureau *iVOX* provides Belgian news media with software to poll the opinions of the public by online question-of-the-day polls, which has been implemented on the Websites of the *Corelio*-edited newspapers (e.g. the quality newspaper *De Standaard* and the popular newspaper *Het Nieuwsblad*). Another new polling technique, the flash-e-poll, provided by *iVOX* has been used by the Belgian press agency *Belga*. This instant poll collects during one day the opinions of a thousand Belgian online access panel members about a topical issue[9]. Despite methodological flaws related to the short fieldwork-period, as well as the non-coverage and self-selection of the online panel members, the results of these polls are occasionally disseminated on a larger scale, when they are used in other news media reports to give an indication about the general public, such as 'the Belgians'[10].

What has especially characterized the Belgian polling situation is the discussion in the 1980s and 1990s on the question of whether poll publications should be banned before

[9] Cf. *iVOX/Socrates online*, 03/10/2005, 'Belga press agency en iVOX lanceren E-poll (Belga press agency and iVOX launch E-poll)'.
[10] For example, *Het Laatste Nieuws*, 29/05/2006, '6 op 10 Belgen heeft zich ooit racistisch uitgelaten (Six out of ten Belgians has ever expressed racist opinions)', this article was based on the flash e-poll of Belga/iVOX.

elections, because of potential effects on the public. Therefore, this discussion is considered next.

2.1.5. Discussion about potential effects: legal ban on poll publications in Belgium

Discussions about potential effects of poll publications on the public have in some countries resulted in legal bans on the publication of polls, and in particular pre-electoral polls. Whereas in the US, proposals for such a publication ban on polls have always firmly been rejected because of the restriction of the First Amendment on the freedom of speech and the press, Belgium introduced such a ban on pre-electoral polls in the mid-1980s. The Belgian law was primarily inspired by the French Act of 19 July 1977, in which a similar publication ban on opinion polls before Election Day was stipulated. At that time, however, Belgium and France were the exception rather than the rule, as other European countries did not have such a law (Voorhoof, 1992, pp. 450-451). Because of this exceptional legal polling situation for Belgium, the particular law and the general discussion about it is considered in more detail.

In 1985, two bills to ban the publication of pre-electoral polls were introduced in the Belgian Chamber of Deputies and the Senate. It was argued that 'public opinion should be protected from distorted and potentially misleading analyses'. Indeed, the main arguments for a publication ban of pre-election polls in Belgium were the potential manipulation and possible influence of the publication of poll results during election times (Voorhoof, 1992, pp. 431-432). Article 5 of the 18 July 1985 Act stipulated that thirty days before Election Day, it was prohibited to make the results of opinion polls public by whatever means, to disseminate them or to interpret them. Another section of this act (Art. 2) required the disclosure of additional methodological information whenever opinion polls were publicized, namely about the poll objective, its subject, the name of the poll commissioner who sponsored the poll, the name of the pollster who conducted the poll, the sample size, selection procedure, sample composition, calculated confidence intervals, data collection method, exact question wording and answer possibilities. An expert commission would be established to supervise practical details and the actual implementation of the law (Art. 3-4). Violations of the law could result in fines between one and 50 euros (Belgisch Staatsblad, 13/08/1985).

From a legal point of view, the media disclosure of methodological poll information can be justified based on Article 1382 of the Civil Code, which stipulates that the dissemination of incorrect or inaccurate information can lead to the legal liability of the media. The complete ban on pre-election polls a month before Election Day, however, may not be justified on legal grounds as it can be considered a fundamental violation of the Belgian Constitution, which stipulates the freedom of speech (Art. 14) and the prohibition of all kinds of preventive government censorship of the print media (Art. 18). Furthermore, it is inconsistent with Article 10 of the EVRM (the European Treaty of Human Rights) about the declaration on the freedom of expression and information (Voorhoof, 1992, pp. 436-443; 451).

In reality, the publication ban has never been applied in Belgium. After the introduction of the law in 1985, the weekly journal *Knack* and the newspaper *De Morgen/Vooruit* purposefully broke the law by publishing pre-electoral poll results, after which even more publications of poll results about voting intentions were published by other media before the Election Day of 13 October 1985. This was the beginning of a controversy about the 1985 Act, and in particular about the publication ban of pre-election polls, which eventually resulted in an amendment of the law in June 1991 (Belgisch Staatsblad, 01/08/1991). Only the article about the publication ban (Art. 5) was omitted from the law, but the legal responsibility of the media to provide people with correct and accurate information about poll results has been maintained. Accordingly, the disclosure of methodological information whenever poll results are made public is legally required. Furthermore, the establishment of a supervising commission of magistrates and statistical experts, as well as the possibility of getting fined was also maintained in the amended article text. An additional element included in the amended law was the proposal of a quality label for opinion poll institutes, which would be recognized by the government. The law applies for polls that 'pose a priori formulated questions to a certain number of people in order to use the answers as representative or indicative for a certain population' but excludes the governmental (e.g. National Institute of Statistics) and academic conduct of surveys (Voorhoof, 1992, pp. 431-432; pp. 470-479). Although the amended law has never been implemented, critics have occasionally referred to the poll publication ban Act as a possible solution for the misuse of polls by the news media in Belgium, and in particular Flanders[11].

[11] For example, *De Standaard*, 30/09/2006, 'Vlaanderen peilt zich te pletter (Flanders polls itself to death)'; *De Morgen*, 14/10/2006, 'Peilingen, pers en populisme (Polls, press and populism)'.

Similar to Belgium, where the ban on poll publications was omitted from the law, several other European countries have currently no legal restrictions on the publication of opinion polls before elections, such as the Netherlands, Germany, Austria, United Kingdom, Ireland, Denmark, Finland and Sweden. By contrast, various other European countries have passed legislation to ban pre-election polls. For example, France, Spain, Portugal, the Czech Republic, Poland, Romania, Bulgaria, Slovenia and Cyprus prohibit the publication of pre-electoral polls within a week or less before Election Day. Furthermore, in Greece, Italy and Slovakia, poll publications are banned in the last two pre-electoral weeks, while this is banned during the entire last pre-electoral month in Luxembourg (Spangenberg, 2003; Butler, 1996, p. 239). Thus, in several countries there is still a ban on the publication of polls before elections.

2.2. Manufacturing news based on opinion polls

The historical review of a close intertwinement between news media and opinion polling in the previous section showed that media-attention to polls has increased worldwide and that news media are closely involved in the polling process. Because available data about poll news are lacking for Flanders, an empirical content analysis is performed of Flemish newspaper articles about opinion polls, published between 2000 and 2006. This content analysis initially addresses two general research questions. A first is whether Flemish newspapers follow the trend of a growing media-attention to poll news, which was observed in other countries. To study this quantitative evolution of poll news, it was opted to particularly focus on current developments in Flanders. Therefore, poll publications during recent years, namely between 2000 and 2006, were examined more closely. A second general research question addressed is to what degree Flemish newspapers are involved in the published polls as commissioners (sponsoring the polls) or pollsters (conducting the polls).

As the main objective of the empirical analysis is gaining insight into the daily process of publishing poll news during a longer period of time, it was chosen to content analyze the daily appearance of news articles about polls during entire years. Due to pragmatic considerations about the selection, collection and coding of these news items throughout entire years, which was initially performed by the researcher, it was opted to study newspaper articles. Obviously, this reduction of media-analysis to newspaper-analysis entails important limitations, not in the least because television news may have become an important source of information about society in general, and about opinion polls in

particular. Furthermore, potential effects from television-broadcasted poll news may be different than from newspaper articles about polls. Chapter 7 of Part II will explore this potential difference in poll effects between these news media channels empirically. But, the present content analysis of poll articles published by Flemish newspapers provides an important overview of the number and presentation of polls published as news in Flanders. Moreover, previous research findings in other countries about television-broadcasted poll news and observed differences with newspaper articles about polls are considered as comparisons for the findings of the Flemish newspaper analysis. Furthermore, in Chapter 8 of Part II, in addition to newspaper articles also television news items about opinion polls are taken into consideration to have an empirical point of comparison.

Conducting an empirical analysis of news articles about polls can also be motivated by the overall aim to study interrelationships between news media, polls and opinions, as well as potential effects of mediated poll information on individual opinions. More specifically, if an increased use of polls in the Flemish news and a close involvement of media in the polls published would be empirically observed, this would enhance the relevance of studying potential poll effects on the opinions of the public. First of all, the empirical analysis of news articles about polls provides essential information about the media-attention to polls, or the visibility of polls in the Flemish news. If this poll visibility would be currently rising in Flanders, which can be expected based on worldwide trends, it would be even more relevant to subsequently examine possible effects of these poll publications on individual opinions. As media publications of polls can provide people with information that seems 'factual' and easy to interpret (Andersen, 2000, p. 285), they can contribute to people's knowledge about the general opinion climate and hence, may influence people's perceptions of collective opinion and personal opinions (Mutz, 1998). Therefore, if news media frequently disseminate opinion polls in their news reports, they may play an important role in communicating knowledge about citizen's opinions to a more general public and to the actors of the political world (Ladd, 1980, p. 574; Barnett, 2001).

Furthermore, the empirical analysis of news articles about polls provides essential information about the presentation and interpretation of poll results by the Flemish newspapers. Because media not only disseminate polls from external sources, but also select particular issues to be covered and even create news stories based on polls themselves, they may 'construct' a particular representation of collective opinion and

affect the public perception of opinion polls (Suhonen, 2001, p. 313; Herbst, 1998; Barnett, 2001). Particularly if news media are closely involved in the polls published, they may *manufacture* news based on opinion polls. Thus, in addition to a supposedly growing Flemish news-media attention to polls, a close media-involvement in the polls published would further enhance the relevance of an empirical examination of potential poll effects on individual opinions.

As shown in the historical review, the relationship between news media and opinion polls has been close and intertwined since the advent of polling. But at the same time, there are general impressions that this relationship is not only close, but also ambiguous and tensed. Firstly, although a growing volume of media publications about polls can be observed worldwide, attitudes from journalists and the public towards poll news seem to be rather ambivalent. Secondly, a growing involvement of news media in the polls published has provoked important criticisms about media actively manufacturing poll news. These general illustrations of a tensed relationship between news media and opinion polling are discussed next, as they are relevant in order to examine in more detail the tensions between news criteria on the one hand, and poll characteristics on the other hand. As these tensions may lead to a particular manufacturing of poll news, they form the basis on which specific expectations are formulated for the empirical analysis of Flemish newspaper articles about polls.

2.2.1. Ambiguous attitudes towards poll news

A first illustration of the tensed relationship between media and polling concerns the worldwide rising trend in the volume of poll news (Miller & Hurd, 1982; Ladd & Benson, 1992; Brettschneider, 1997; de Boer, 1995), while attitudes towards polls have been rather ambiguous. Indeed, it seems that although more poll news has been published over time, both journalists and the public consider poll news as useful, while they are also quite skeptical about it.

Various reasons can be mentioned why the mass media have used opinion polls in the news. First, opinion polls are newsworthy, especially if they provide new information and are related to topical subjects. Second, polls can be used as part of a larger story, in order to make generalizing statements about society. Third, media may deliberately try to influence public debates and political decisions by publishing and interpreting poll results. Finally, journalists can use polls to learn what the public wants to hear or read about

(Suhonen, 2001, pp. 313-315). For the audience, on the other hand, a frequent use of opinion polls by the news media may also be useful. Firstly, poll results can be of practical value for personal decisions about products, policy positions and elections. Secondly, polls may be of comparative value for people who wish to compare their own opinions with those held by others in a particular group, region or country. Thirdly, polls can be of political and ideological value for citizens to have an idea of the electoral support for political parties and candidates, as well as public support for policies about various issues (Shiraev & Sobel, 2006, pp. 8-11).

Regarding the public's awareness of and interest in poll news, for example, Irwin and Van Holsteyn (2002) observed that most of the Dutch voters came across opinion polls before the elections of 1986, 1998 and 2002. Similarly, Lavrakas et al. (1991) found in their panel survey that 71 percent of the American respondents reported to be aware of opinion polls during the 1988 presidential elections and almost all of them correctly knew the poll results. But while there was an overall high awareness of poll publications, the personal interest in these publications varied among respondents. Whereas one-third of the respondents said not to be interested, another one-third of them reported great interest, and the remaining group was 'somewhat' interested in poll news. Similar figures were found regarding the attention people paid to poll publications in the news, with three groups of respondents showing a dissimilar degree of poll attention. However, after the election, most of the respondents (66%) agreed that the media had used too many poll stories in the pre-electoral news coverage (Lavrakas et al., 1991, pp. 157-160). Likewise, de Vreese and Semetko (2002) found in focus group interviews that opinion polls had been too dominant during a referendum campaign. Furthermore, participants in the focus groups were fairly frustrated about the frequent use of polls in the news, they considered the published polls as 'disabling components and distractions in processing the news' and perceived these polls to be possibly affecting undecided voters (de Vreese & Semetko, 2002, p. 379).

Apart from public attitudes, journalist's attitudes towards polls have also been quite ambiguous. Initially, journalists were rather skeptical about opinion research, but in particular Meyer's work 'Precision Journalism' (1973) encouraged a journalistic use of social scientific methods. Consequently, the newsworthiness of quantitative poll information became increasingly recognized by journalists (Weaver & McCombs, 1980, p. 478) so that opinion polls, which obtained a 'scientific' or 'objective' aura, were considered an important information source for journalists (Salmon & Glasser, 1995, pp.

443-444; Butler, 2007, pp. 35-36). However, Weaver (2008) observed a quite tensed relationship between journalists and polls on the basis of his review of the few published studies about French, German and American journalists' attitudes towards polls in the past 20 years. On the one hand, it was found that most of the surveyed journalists perceived polls useful in their work as a valid indication of 'public opinion'. Especially the American journalists considered it important to give ordinary citizens a chance to express their personal views on public affairs. On the other hand, it was observed that the surveyed journalists believed that poll news published shortly before elections could influence voting decisions, and not necessarily in a positive or informative way. Furthermore, though substantial differences could be found between countries and types of news media, most journalists said that polls *should* have less influence on opinions than they actually have (Weaver, 2008, p. 456).

2.2.2. Criticisms about close media-involvement in polling

Apart from ambiguous attitudes of journalists and the public towards poll news, criticisms have been raised against a too close media-involvement in polling. With this term media-involvement in polling, it is referred to *commissioning* polls, which is financially sponsoring the polls on the one hand, and/or *conducting* polls, which refers to collecting and analyzing the poll data on the other hand. Especially the technology of the Internet and the development of several Web-based software packages to perform opinion polls (e.g. Socratos) make it increasingly easy for various (media-) organizations to carry out the polls themselves. The integration of in-house polling departments at news redactions of the major media organizations in the US then can be regarded as the complete 'media embrace' of polls (Brettschneider, 1997, pp. 250-251; Crespi, 1980, p. 463). However, whereas in the US in-house polling departments have been established at news media redactions, the general impression is that in Europe relatively fewer polls have been conducted by the media themselves. For example, Suhonen (2001) observed that almost half of the polls reported in the Finnish media were conducted by commercial research organizations, rather than by the media themselves. But she also found that one third of the poll news was based on polls commissioned (i.e. sponsored) by a media-source, of which 7 percent was commissioned by the publishing media and 21 percent by other media (Suhonen, 2001, pp. 317-319).

If news media are closely involved in the polling process by commissioning or conducting opinion polls, the poll results are easily accessible for them to report upon extensively

(Andersen, 2000, p. 285). As news media first measure people's opinions by polls, and subsequently report upon the poll results as an indication of a more collective opinion, a close and intertwined relationship is established between the news media and the polls published (Mann & Orren, 1992; Crespi, 1980). Such a close relationship has provoked criticisms about a possible news-making feedback loop. Depending on the newsworthiness of issues, polls about a current topic can be ordered and reported upon to extend the news about this topic. An upcoming election, for example, could be an occasion for the news media to commission polls about voting preferences, but also a public debate about an issue of topical interest could provoke the reporting of polls about more general subjects. In this context, Kovach (1980) talks about a 'chain reaction' in which 'the media and the polls are feeding on each other'. On the basis of a poll, an issue could be proposed, on which politicians react, which is reported by the media, and subsequently a new poll is ordered to measure the people's responses (Kovach, 1980, pp. 570-571). The same kind of feedback loop is found with Crespi (1980) who argues that '1) definitions of what is news, 2) determine the content about polling, 3) affect the political process, 4) which becomes news' (Crespi, 1980, p. 466). Although such a news-making feedback loop may apply to the reporting of other events or hypes, it can be especially applied to the manufacturing of poll news. The main argument is that by being closely involved in opinion polls, media may manufacture news based on these polls (Von Hoffman, 1980; Gollin, 1980).

In sum, although the volume of poll publications has grown worldwide, the attitudes of journalists and the public towards poll news have been rather ambiguous. Furthermore, while news media have been increasingly involved in the polling process itself, criticisms about a possible news-making feedback loop for poll news have been raised. These are illustrations of a tensed relationship between news media and opinion polling, which may manifest itself in the manufacturing of poll news. This brings us to the media selection and creation of news on the basis of general news criteria, and their tension with poll characteristics.

2.2.3. Media selection and creation of poll news (News criteria)

The news criteria of the media to select and create news can come into conflict with the criteria to obtain high-quality opinion research. This tension may, in turn, affect the way in which news media present and interpret opinion polls in their news reports. This viewpoint was clearly articulated by Smith and Verall (1985), who contend that because

'opinion polls are inherently complex, somewhat dated, and tentative in their conclusions', whereas the news should be 'simple, timely, and interesting', poll findings are transformed to match the journalistic criteria of news, such as by 'simplification, temporal transposition and dramatization' (Smith & Verall, 1985, p. 77). Because of this tension, it is deemed important to consider the prevailing news criteria or news values, which list the major factors that may influence the media selection and creation of news. In fact, news criteria can be regarded as the 'ground rules' of journalistic practices (Harcup & O'Neill, 2001, p. 261); they address the question 'what is news', and in particular why opinion polls are news. Indeed, it is argued that poll coverage has become 'a news beat of its own', especially if the media not only report on the findings of external research organizations, but are also closely involved in the polling process itself by commissioning or even conducting polls (de Vreese & Semetko, 2002, pp. 369-370). In this way, poll news becomes an essential part of the media's news making process (Von Hoffman, 1980; Gollin, 1980). But, rather than analyzing poll data as exploratory variables of underlying attitudes or behaviour, news media primarily use poll results because of their *news value* (Brettschneider, 1997, p. 250). As Crespi (1980, pp. 464-465) notes, the media's 'prime objective is to report aspects of public opinion for their intrinsic interest as news'. However, these news values or interests may conflict with the methodological standards of performing high-quality opinion research.

One of the most influential classifications of news criteria was developed by Galtung and Ruge (1965), based on the psychology of perception, namely what would strike people's attention. Although their classification of news criteria may have some shortcomings, as it was published a long time ago and focused on events, as well as on the structure of foreign news, it indicates the basic news values that have been frequently referred to (Harcup & O'Neill, 2001, p. 264). Therefore, they are considered useful for the current purpose, which is to gain insight into the newsworthiness of opinion polls. Table 2-2 gives an overview of Galtung and Ruge's news criteria, which were based on identifiable events. In the context of poll news, this means that the release of poll results should be regarded as a unique event. Galtung and Ruge assumed that the more criteria an event satisfies, the more likely it will be selected and used as news. Moreover, those news criteria on the basis of which the event was selected will subsequently be accentuated in the news reports (Galtung and Ruge, 1965, p. 264).

Table 2-2: Overview of Galtung & Ruge's news criteria (1965)

1.	Frequency
2.	Threshold
3.	Unambiguity
4.	Meaningfulness
5.	Consonance
6.	Unexpectedness
7.	Continuity
8.	Composition
9.	Reference to elite nations / elite persons
10.	Personification
11.	Negativity

It can be argued that opinion polls satisfy most of Galtung and Ruge's news criteria, depending on, for example, the poll subject (e.g. subject with reference to elite persons, such as politicians) or the journalist's interpretation based on them (e.g. focus on negativity). But the creation of poll news is closely related to four news criteria in particular, namely frequency (criterion 1), unambiguity (criterion 3), meaningfulness (criterion 4) and continuity (criterion 7). These are especially focused on, because of the tension between these news values and the criteria of high-quality opinion research, which may have implications for the way in which news media present opinion polls. First of all, the criterion of frequency, which stresses the importance of daily and timely news, may come into conflict with the time needed to perform high-quality survey research, so that media may prefer those poll modes that can deliver quickly new poll results (e.g. online polls). Second, there may be a tension between the news criterion of unambiguity and the typical ambiguity of poll findings due to methodological problems, so that they will be reported in an 'absolute' way, rather than in a 'relative' way. Third, although the news criterion of meaningfulness recommends giving interpretative meaning to news, media-manufactured interpretations of poll results could transcend the actual meaning that can methodologically be attributed to the poll data. Finally, because of the news criterion of continuity, the creation of artificial continuities based on poll comparisons may overshadow the actual differences in poll methods, polling institutes and survey moments.

Before it is focused on these particular news criteria, however, the other criteria are briefly discussed with regard to poll news. For example, the news criterion of threshold or amplitude (criterion 2) suggests that the bigger the event, the more likely it will become news (Galtung & Ruge, 1965, p. 66). This might imply that polls with a larger sample size or with a wider geographical range might be selected more frequently as news (e.g. the media-commissioned 'Largest Neighbourhood Survey' conducted in nearly all Flemish towns before the local elections of 2006). Additionally, because of the unexpectedness

(criterion 6) of particular poll results (e.g. political party loses votes unexpectedly), polls could become news. On the other hand, because of the consonance (criterion 5) and composition (criterion 8) of news stories, which refer to the particular features of a news medium, polls can fit in as news. This is dependent on 'the cultural, commercial or political climate' of the different media outlets (Harcup and O'Neill, 2001, p. 270). Furthermore, if polls have a reference to elite persons (criterion 9), such as pre-electoral polls about political candidates which can be commented by politicians afterwards, these polls might be more likely to be selected as news, because the actions of elites are considered more consequential than others. This is closely related to the news criterion of personification (criterion 10), which suggests that journalists prefer to present events as the consequence of the actions of one or a few named persons. Finally, the news criterion of negativity (criterion 11), which suggests that 'bad news is good news' (Galtung & Ruge, 1965, pp. 68-69), could entail that journalists prefer to stress poll findings that are negative (e.g. more people have become racist) or interpret them in terms of conflict (e.g. decreasing popularity of one candidate versus increasing popularity of another candidate).

Although the criteria mentioned can be applied to poll news, the empirical study focused on four news criteria in particular, namely frequency, unambiguity, meaningfulness and continuity. These were selected to examine in greater detail for poll news, because of their tension with poll characteristics. Because of this tension, news media may manufacture news based on opinion polls and hence disseminate a particular representation of public opinion. Therefore, the four specific news criteria are described, as well as their tension with polling criteria, based on which specific expectations for the empirical analysis are formulated.

2.2.3.1. Frequency

A first news criterion that is particularly focused on is frequency (criterion 1). This criterion suggests that 'the more similar the frequency of the event is to the frequency of the news medium, the more probable that it will be recorded as news by that news medium'. This means that for daily news media, such as newspapers or television news bulletins, events that happened in between the daily publication moments are more likely to be used as news, than events that are spanned over a longer time period (Galtung & Ruge, 1965, p. 66). Accordingly, it may be expected that a daily news medium lends itself to select and use very frequently, even daily, new poll results as news. The journalistic criterion of frequency is also related to timeliness and 'novelty'. Put differently, it determines that polls should stress the events of the day or should be related to the headlines of the day

to be selected as news. Thus, in order to publish something, it has to be associated with the present (*what is happening now*) or future (*what is about to happen*). However, there can be tensions between the news criterion of frequency and polling criteria, which may result in a particular manufacturing of poll news.

2.2.3.1.a. Tension

Tensions between the news criterion of frequency and polling criteria may manifest itself in two ways of manufacturing poll news. First, the daily news rhythm may come into conflict with the time it takes to perform adequate opinion research. Indeed, there may be a 'clash of institutional imperatives' between opinion research on the one hand, and the media with their definitions of news on the other hand. The time needed to construct a questionnaire, interview the respondents, process and analyze the collected data is typically opposed to the rapidity by which news has to be published (Ladd, 1980, pp. 575-576; Crespi, 1980, p. 466). Therefore, news media may prefer polling methods that reduce the time needed for data collection, such as by the Internet, so that poll results are more quickly available to report upon. For example, by the use of an online access panel, basically every day people can be polled on a current topic, of which the results can be used as daily news. But this implies a 'trade-off' between achieving a high level of methodological poll quality, which typically takes a considerable amount of time, and the quickness of the deliverability of poll results to use as daily news. For example, Kim and Weaver (2001) observed that between 1996 and 1998, the number of online polls in the American news increased from 71 to 415, respectively. Whereas 39 percent of the reported traditional polls were conducted by media organizations, as much as 72 percent of the reported online polls were conducted by the media (Kim & Weaver, 2001). Although there might have been a general trend to use the Internet for various reasons during the period studied, it illustrates that media seem to be interested in online polls, which can deliver very quickly new poll results to report upon in the news.

Another way in which news media select and create news is by focusing particularly on timely topics. It seems that especially pre-election polls can match this frequency criterion of timeliness very well, because they always anticipate upon an upcoming election (Crespi, 1980). Indeed, it has been found that especially during elections the news-media coverage largely consists of polls and expressions of the collective opinion. For example, Brettschneider (1997) observed that the closer to a political election, the more poll articles were published in the German newspapers. He found that 40 percent of the pre-electoral poll reports (studied within a period of 12 weeks before an election), were published in the

four last weeks before Election Day (Brettschneider, 1997, p. 253). Similarly, Smith and Verall (1985, p. 65) found that during the 1980 electoral campaign, about 35 percent of the election coverage in four Australian television news bulletins contained at least one explicit reference to an opinion poll. Andersen (2000, p. 288), on the other hand, observed that 21 percent of the election reports in Canadian newspapers and television news bulletins mentioned opinion polls during the 1997 campaign. Consequently, by regularly polling the strength of voting preferences and always looking forward to the next election, polling may become a 'continuing quasi-election' (Brettschneider, 1997, p. 253; Crespi, 1980, pp. 465-466).

In contrast, it is much more difficult for polls about general issues to be timely. As a result, polls about headline events or issues of topical interest could be given priority to publicize. Paletz et al. (1980, p. 502) suggest that occasionally journalists even deliberately force a link between a poll and the news of the day. Therefore, Crespi (1980, p. 468) contends that the release of specific polls about current topics may produce a representation of the collective opinion as a 'spasmodic, even mindless, reaction to a series of unrelated events'. For example, it was empirically found by de Vreese and Semetko (2002) that one third of all news stories in Danish newspapers and on television referred to opinion polls in the month before a referendum on the introduction of the Euro. Thus, particular events make polls timely to be used as news.

2.2.3.1.b. Expectations for Flemish case

Based on the highly-regarded news criterion of frequency, it is expected that daily newspapers will use poll results on a daily basis, depending on the newsworthiness of poll results and the timeliness of particular issues. First of all, it may be expected that due to the news criterion of frequency to publish daily news, media will be particularly interested in polling methods than can deliver quickly new and recent poll results, such as online polls. However, this implies a tension with general polling criteria of performing high-quality opinion research. Secondly, regarding the timeliness of issues, it may be assumed that news media will select and create poll news that is related to topical issues. Because this could manifest itself especially during times of political elections, it is particularly focused on the difference in newsworthiness that is attributed to electoral poll news relative to more general poll news.

2.2.3.2. Unambiguity

A second news criterion particularly focused on is unambiguity (criterion 3). This criterion suggests that an event 'with a clear interpretation, free from ambiguities in its meaning is preferred to the highly ambiguous event from which many and inconsistent implications can and will be made' (Galtung & Ruge, 1965, p. 66). This criterion of unambiguity can refer to the subject selected or the journalist's interpretation of the subject (Harcup & O'Neill, 2001, p. 268), and is of particular relevance for poll news because of a tension between unambiguous news and ambiguous polls.

2.2.3.2.a. Tension

Opinion measurement by polls and hence, interpretations of poll results are typically characterized by uncertainty and ambiguity. Indeed, polls can only produce estimates, which are mostly based on a sample. Therefore, poll results are in essence uncertain. However, highlighting the relative nature of poll results and putting them into perspective may conflict with the news value of unambiguity. Therefore, because of the journalistic ideal of unambiguity in the news, media may prefer to interpret poll results in an 'absolute' way, as if they were 'facts', rather than stressing the methodological limitations of the implemented polling technique (Miller, Merkle & Wang, 1991). Accordingly, it may be expected that the typically ambiguous measurement of people's opinions by polls will be reported in a quite unambiguous way.

Unambiguous poll news is especially problematic when journalistic statements are based on polls that do not conform to methodological standards or when a biased image of 'public opinion' is disseminated to public and policymakers. A possible effect of misrepresentations of polls by the media would be that people vote for a political candidate or party that they had not voted for otherwise, or more broadly that people cannot gain good insight in the changes of collective opinion (Andersen, 2000, p. 295). Furthermore, the way in which a poll's methodology is reported can affect the perceived accuracy of opinion polls, which may in turn affect the general participation in opinion research (Smith & Verall, 1985, p. 58). Although the accuracy of the poll itself is the responsibility of pollsters, the *perceived* poll accuracy is dependent on the quality of the media coverage of polls (de Vreese & Semetko, 2002). That the methodological quality of poll reports is important can be illustrated by the development of worldwide standards of methodological disclosure.

2.2.3.2.b. Standards of methodological disclosure

ESOMAR/WAPOR (2005) argue that in a democratic society public and government should be exposed to properly conducted survey research conforming to high methodological standards. Therefore, transparency and accuracy is required from those conducting as well as those reporting upon opinion polls (ESOMAR/WAPOR, 2005). Due to such discussions about the transparency and accuracy of media reports about polls, general guidelines with minimal requirements for methodological disclosure in poll publications have been developed worldwide by professional opinion research organizations, such as AAPOR, who adapted the first methodological guidelines of minimal disclosure in 1969 (Kim & Weaver, 2001, p. 73), followed by other organizations, such as NCPP, ESOMAR/WAPOR, CASRO and Febelmar (Belgium). Rather than developing universal poll procedures or performance standards for conducting high-quality opinion research, these organizations have set up general guidelines of methodological disclosure in public poll reports. In this way, the responsibility for adequate polling is shifted from the pollster to the user of the poll data. Accordingly, standards of methodological disclosure can only help to improve the accuracy of the polls themselves in an indirect way, for example by frequent user complaints (Miller et al., 1991, p. 203). Their main aim, however, is to improve the possibility to evaluate the methodological accuracy of opinion polls in media-reports.

Table 2-3 provides an overview of the different methodological elements considered to be essential to publish in media reports about opinion polls by the '*Code of Professional Ethics and Practices; Standards for Minimal Disclosure*' of the American Association for Public Opinion Research (AAPOR, 2005), the '*Principles of Disclosure*' of the National Council on Public Polls (NCPP, 2005), '*The ESOMAR International Code of Practice of the Publication of Public Opinion Results*' of the European Society for Opinion and Marketing Research and the World Association for Public Opinion Research (ESOMAR/WAPOR, 2005), '*The CASRO Code of Standards and Ethics for Survey Research*' of the Council of American Survey Research Organizations (CASRO, 2006) and the '*Aanbevelingen van Febelmar; Richtlijnen inzake de Publicatie van Opiniepeilingen (Recommendations of Febelmar; Guidelines concerning the Publication of Opinion Polls)'* of the Belgian Federation of Market Research Bureaus (Febelmar, 2006).

Table 2-3: Overview of guidelines with minimal requirements of disclosing methodological information in public reports about poll results

Disclosure of Methodological Information	ESOMAR / WAPOR	CASRO	AAPOR	NCPP	Febelmar
General poll information					
1. Name of polling institute, conducted the poll	X	X	X	X	X
2. Name of sponsor, commissioned the poll		X	X	X	X
3. Definition of target population	X		X	X	X
4. Purpose of survey		X			
Sample information					
5. Sample size	X	X	X	X	X
6. Description of sample procedure	X		X	X	X
7. Geographical range of sample	X				
Data collection information					
8. Method of data collection	X		X	X	X
9. Fieldwork period	X	X	X	X	X
10. Exact question wording	X	X	X	X	
11. Question order			X		
12. Response rate			X		
Technical information					
13. Information about accuracy of results (e.g. margin-of-error)			X	X	
14. Description of weighting or other estimation procedures			X	X	
15. Information about partial results (e.g. sub-sample size)			X	X	

The recommended aspects of methodological disclosure can be grouped in four broader categories: general poll information, information about the sample, information about the data collection and information about technical procedures. First, disclosing general poll information in media reports can give an overall impression of poll results and the interpretations based on them. For example, information about the sponsor and pollster may be related to the perceived 'integrity and credibility' of a poll. Sponsors who have a particular interest in publishing poll results about a topic may choose a particular poll methodology or selectively release some of the results, and therefore, affect the poll results published. Furthermore, it may be especially important to disclose the poll commissioners if the publishing news media themselves sponsored the polls reported. Second, disclosing characteristics regarding the sample obtained may provide important information about the context in which the validity of poll findings should be evaluated. For example, knowing the exact fieldwork dates, and the time lag with the publication date can be essential in order to evaluate media-interpretations of poll results. Third, disclosing information about the data collection can be important, such as the implemented mode which can have implications for the amount of error or bias in the poll data. Similarly, disclosing the exact question wording can be essential, since research (e.g. Schuman & Presser, 1981) has shown that minor variations in the questions can lead

to major changes in the opinion distribution obtained. For example, whether a voting intention or a party preference was asked may not yield the same results. Finally, disclosing technical information, such as the margin-of-error or the implemented weighting procedures, can be relevant in order to interpret published poll results properly, though such margin-of-error can only be quantified if probability-based sampling techniques were used. Although other biases are more difficult to quantify, for example those related to coverage, non-response and self-selection, but in such cases it can be reported that the polls do not represent the opinions of the general public (Miller et al., 1991, pp. 204-206; Andersen, 2000, p. 292; 295).

The standards of methodological disclosure can be used to perform an analysis of the methodological quality of poll coverage (Brettschneider, 1997; Andersen, 2000; Smith & Verall, 1985; de Boer, 1995; Miller et al. 1991; Suhonen, 2001; de Vreese & Semetko, 2002). On the basis of previous studies, it was found that the technical reporting of polls is generally of poor quality. Smith and Verall (1985, p. 76), for example, found that poll reporting is 'extensive but superficial and inaccurate'. Similarly, Miller et al. (1991), who performed a content analysis of six American print media outlets during the 1988 primary elections, showed that there is a tendency to report the simpler, non-technical types of information such as the population, date of fieldwork and sample size. More technical elements such as sample selection procedures, weighting procedures and response rates, on the other hand, were found to be disclosed to a much lesser extent (Miller et al., 1991, pp. 208-209). Similarly, Brettschneider (1997) found that the different methodological aspects were disclosed to a dissimilar degree. For example, the name of the polling institute that conducted the poll, the target population and the fieldwork timing were the most frequently mentioned aspects; whereas the exact question wording and margin-of-error were reported to a much lesser degree. The emphasis on particular methodological aspects mirrored attitudes of German journalists about what they considered important to mention in a poll report (Brettschneider, 1997, pp. 260-261). Suhonen's study (2001) of the Finnish media coverage of polls came to the same conclusions about the dissimilar disclosure of methodological aspects in poll stories.

Furthermore, it has been found that newspapers perform slightly better in reporting technical poll details than television reports about polls (Andersen, 2000, pp. 292-294). This was also found by de Vreese and Semetko (2002, pp. 378-379) in their study of Danish newspapers and television news bulletins, as well as by Paletz et al. (1980, pp. 503-504) in their study of American print and television news. Regarding other

differences in the methodological disclosure, namely between election-related poll reports and more general poll news, or between reports from media-polls and other polls, rather mixed results were found, as for example Miller and Hurd (1982) observed significant differences, while Kim and Weaver (2001) did not.

2.2.3.2.c. Discussion about methodological standards

Whether and to what degree methodological poll information should be disclosed in media reports has been a subject of discussion. Following the professional opinion research organizations, various scholars have emphasized the importance of disclosing methodological poll information in media reports. Brettschneider (1997, p. 263), for example, contends that methodological disclosure is needed in order to evaluate the reliability and validity of published poll results. Similarly, according to Smith and Verall (1985), the main reason to include poll methodological information in news stories is to 'assist the reader in drawing accurate conclusions from poll data'. This, however, would also imply that if journalists already underwrite a high accuracy standard, the technical information becomes less necessary for the public (Smith & Verall, 1985, p. 71). But Andersen (2000, p. 286) contends that at least correct media-interpretations of methodological poll information are required. Furthermore, Miller et al. (1991) suggest that it is 'in the best interests of the media to fully disclose those aspects of poll methodology and conditions that may lead to inaccuracy, because such disclosure can lower expectations about polls, give consumers appropriate caveats, and, incidentally, shield the press from criticism if their polls prove to be wrong'. Disclosing polling information, thus, can be motivated in order to put poll findings into perspective. In fact, elements about the implemented poll methodology can be considered more 'the truth' than poll results and their interpretations. Therefore, reporting polls 'properly' is only possible by a kind of 'journalism with footnotes, wherein certain *facts* about polling methods are appended to a discussion of poll findings' (Miller et al., 1991, pp. 200-201; 209; 211).

However, it should be noted that there are two opposing discussions *against* methodological disclosure in media reports, because they would disclose either too little or too much methodological information. On the one hand, it is argued that the standards of methodological disclosure miss out essential elements that may affect the poll results published. For example, the disclosure standards do not mention the problem of 'illusory' or 'phantom' opinions, which are poll responses based on uninformed or even non-existent opinions. According to Miller et al. (1991), it is a routine journalistic practice to

present pre-electoral poll results as people's 'genuine' expectations of an election outcome and to use them after Election Day as the context for interpreting the election results (e.g. in terms of 'real' opinion shifts). In this way, the image of an informed public with clear opinions that changes due to new information is emphasized. Another element not included in the disclosure standards, but of which it is argued to be important for the evaluation of poll inferences, concerns the issue of non-response. Although the standards recommend disclosing information about the response rate, it typically remains unreported whether additional attempts were made to contact initial non-respondents, or whether the opinions of the respondents and non-respondents differed significantly (Miller et al. 1991, pp. 206-209). This information may be important to know in order to evaluate the methodological quality of the reported poll findings.

By contrast, arguments have also been raised to restrict the amount of methodological poll information in news reports, or to ignore the standards of methodological disclosure altogether. First of all, journalists have to deal with important time and space limitations so that they probably prefer to highlight the poll findings, rather than elaborating upon the technical details of a poll's methodology. Furthermore, disclosing much information about methodological decisions, and thus, stressing the limitations of poll findings, may raise questions in the audience about 'what the point of the poll is'. This may lead to the conclusion that 'the less that need to be said about polling methods, the better'. Moreover, it can be argued that a lot of people do not understand the technical poll details disclosed (Miller et al. 1991, pp. 210-211). For example, Lavrakas et al. (1991) found that most of the (American) respondents surveyed did not have much of an understanding of the margin-of-error in a news context. Based on their experiment, the scholars argued that people do not adequately understand the limitations of methodological poll information disclosed by the news media (Lavrakas et al., 1991, pp. 163-164).

Accordingly, the question can be posed what the effect on the public would be if all relevant methodological information would be provided in news articles. The provision of this information does not necessarily mean that people can interpret the more technical poll details, such as sampling or weighting procedures. However, if it is true that people cannot assess the poll quality themselves, the media's responsibility in properly interpreting poll results and evaluating the poll's reliability becomes even greater, especially in the case of polls that did not conform to methodological standards. This brings us to the critical evaluation of opinion polls in the news.

2.2.3.2.d. Critical evaluation of opinion polls

The guidelines for minimal disclosure were not only aimed to increase the amount of reported methodological information in public poll reports, but also to be used by the news media in critically assessing poll results from externally- and internally-commissioned polls (Suhonen, 2001). Therefore, apart from the limited disclosure of methodological poll information, another aspect that can contribute to the unambiguity of poll news concerns a lack of critical evaluations of opinion polls in news reports. Studying the way in which journalists explicitly evaluate a poll's methodology is important, because this may affect the perceived trustworthiness of poll results in the public. However, Paletz et al. (1980, p. 506) found that journalists have 'the natural inclination to support rather than undermine the results they report' and Andersen (2000) observed that opinion polls are often 'given an unjustified aura of certainty, and treated as straightforward matters of fact', rather than that methodological ambiguities are reported. Through this, the audience may be more reassured than alerted about the reliability of poll results published (de Boer, 1995, p. 94; Paletz et al., 1980).

For example, Andersen (2000, p. 192) observed that no Canadian television stories and less than one percent of the newspaper articles about pre-electoral polls during the 1997 electoral campaign gave direct warnings to their audience regarding the interpretation of the poll results. Similarly, Suhonen (2001) found that Finnish poll news only very rarely disclosed critical assessments of polls. For example, only five percent of the poll news on radio and television evaluated the poll method, which was about ten percent for newspaper articles. She contends that newspapers have more space to critically assess poll methods, and therefore perform slightly better regarding the methodological evaluation of polls (Suhonen, 2001, p. 331).

Apart from the presence of evaluative poll judgments in news stories, their direction or tendency can be considered as an additional indication of how critical news media present opinion polls. For example, Smith and Verall (1985) studied the degree of balance in Australian television coverage about the strengths and weaknesses of pre-electoral polls, and observed that the rejection (62%) and acceptance (58%) comments about polls were quite balanced (Smith & Verall, 1985, p. 76). Brettschneider (1997), on the other hand, observed in his study of pre-electoral poll news in Germany, that the overall poll's evaluation in newspapers was in the negative direction, though 52 percent of the poll articles was found to be neutral or balanced. However, only seven percent of the

poll reports were coded as positive. Furthermore, it was found that about half of the evaluative poll judgments were expressed by politicians, and the other half by journalists. Only rarely, academics were the source of a poll's evaluation. Moreover, especially politicians seemed to be 'poll critical, if not hostile, of polls', as they were found to express most clearly negative evaluations of polls and their methodology (Brettschneider, 1997, p. 255). Similarly, Smith and Verall (1985, p. 76) observed that 79 percent of the negative poll judgments on (Australian) television were expressed by politicians, whereas 75 percent of the positive judgments were expressed by journalists. In general, politicians have always criticized polls (Frankovic, 2005, p. 691) but primarily those polls of which the results do not fit into their campaign strategies (Brettschneider, 1997, p. 249). Brettschneider (1997) sees these recurrent criticisms of opinion polling expressed by politicians as a kind of 'ritual' during election periods because they provoke each time the same kind of questions about the meaning of opinion polls (Brettschneider, 1997, pp. 248-249).

2.2.3.2.e. Expectations for Flemish case

Because of a tension between the news criterion of unambiguity and the typically ambiguous characteristics of opinion poll results, due to methodological limitations, it may be expected that news media would create unambiguous poll news. Therefore, the question to be addressed is how media report upon polls and their methodology. Indications of unambiguous poll news would be a limited disclosure of methodological aspects, which can be assessed by methodological disclosure standards, as well as a limited expression of methodological poll judgments, which would suggest a rather uncritical use of polls in the news.

2.2.3.3. Meaningfulness

A third news criterion particularly focused on concerns the meaningfulness (criterion 4), which refers to the cultural proximity of an event (the closer an event, the more newsworthy) or its relevance in terms of what it may imply for the public (Galtung & Ruge, 1965, p. 67). Applied to poll news, it could mean that national, regional and local polls are especially meaningful for the general public, as they can provide people with a representation of opinions of relevant others, namely the distribution of opinions in their (sub-regions of) society. More broadly, it means that media will interpret poll news in a meaningful way, by emphasizing the relevance that poll results can have for the public and the political world.

2.2.3.3.a. Tension

Based on the news criterion of meaningfulness, it can be expected that news media wish to give meaningful interpretations to poll results, rather than to 'transmit' the raw poll percentages in a merely informative way. However, by interpreting poll results in the news, media may 'transcend' the actual meaning that can methodologically be attributed to the poll results. For example, Andersen (2000) observed that polls were used to interpret political actions, candidates or events in 89 percent of the poll reports in Canadian newspapers and on television during the 1997 electoral campaign. These interpretations, however, could not be supported by the actual poll results (Andersen, 2000, p. 290; 295).

Generally, journalists have a great freedom in the way they publicize poll results and interpret them (Patterson, 2005, p. 721). They can simply report the raw data (often percentages) or give substantial meaning to the results and use them as the basis for a more general political analysis (Smith & Verall, 1985, p. 66). Because the provision of poll numbers can be considered as 'factual' news, offering 'hard' data (Paletz et al., 1980, p. 496; Andersen, 2000, p. 285; Crespi, 1980, p. 473), the use of interpretations and analyses of poll data can be seen as an indicator of media manufacturing news on the basis of factual poll data. For example, the poll numbers can substitute in a way for experts and give a subjective news story a kind of authority (Frankovic, 2005, pp. 684-688; Brettschneider, 1997, p. 262). According to Rosenstiel (2005, p. 707) 'the new media culture has intensified the degree to which polls become the lens through which reporters see and order the news in a more interpretative news environment'. Because more of the news is devoted to analytical interpretations, polls can provide a factual basis for these interpretative news stories. The main function of polls then is to structure the news in a thematic and narrative way. Put differently, polling data can be used as a context to interpret other news and structure political analyses (Rosenstiel, 2005, p. 707).

Consequently, Suhonen (2001, p. 317) contends that by interpreting poll results, and hence by giving substantial meaning to them, media can contribute to a particular image of 'public opinion' which is disseminated to the general public and politicians. For example, Smith and Verall (1985) studied the coverage of meaning attributed to poll results during the 1980 election on Australian television. They observed that about half of the poll stories contained an implicative meaning (54%) of the poll results, referring to conclusions or implications based on them, but that only a small percentage of the poll

reports contained a causal meaning (9%), referring to causes or reasons for the poll results. Additionally, the researchers observed that another important interpretative focus of the television coverage consisted of explicit claims about the actual or supposed existence of poll effects, which was found in as much as 84 percent of the poll stories. Effects from the polls mentioned were changes in the mood of politicians and the public; revisions of campaign strategy and party-political actions; as well as economic movements, such as in stock markets. However, although poll effects were often claimed by the news media, evidence was seldom presented, nor was it clear whether any effect actually occurred (Smith & Verall, 1985, p. 67). Similarly, Andersen (2000, p. 291) observed that both Canadian television and newspapers commented regularly on the possibility that the published poll results could change the course of the 1997 election and the role of the politicians herein. A similar finding was observed by Brettschneider (1997, p. 257) in the German newspaper coverage in pre-electoral campaigns between 1980 and 1994. As a result of expressing such suggestive statements about a possible impact of polls, the general perception of 'the power' of publicized polls may be influenced (de Boer, 1995).

2.2.3.3.b. Expectations for Flemish case

Due to a possible tension between the news criterion of meaningfulness and actual poll results, it may be expected that news media will primarily give interpretative meaning to poll results, rather than merely disseminate the raw percentages. A specific type of poll interpretations concerns the perceived effects on polls and from polls. Effects on polls could be current events, political actions or economic trends that may be interpreted by the news media as possible causes for the poll results obtained, or in other words effects on the opinions polled. Effects from polls, on the other hand, refer to possible influences on individual opinions, political actions or policy decisions because of the publication of poll results.

2.2.3.4. Continuity

Finally, a fourth news criterion particularly focused on, as it is closely related to the selection and creation of poll news is continuity (criterion 7). This criterion suggests that 'once an event has "made it", the news channel will be more readily open for follow-up events, at a lower threshold value'. In this way, 'news strings' can be created, based on artificial continuities (Galtung & Ruge, 1965, p. 67; 82). Opinion polls seem to match this news criterion of continuity very well. For example, by comparing the results of opinion polls, continuous poll news might be created. This is especially the case when the results

of longitudinal panel polls about a similar issue are compared between different time points. Based on such poll comparisons, the media themselves may create over-time trend lines with their poll publications. In particular, the release of polls with a continuing public interest, such as the popularity ranking of political candidates can be easily reported in the form of trends. Consequently, changes in popularity of political candidates can become news in the same way that indexes of unemployment or consumer prices are used as news (Crespi, 1980, p. 470). However, although opinion polls can be easily used by the news media to fit this news criterion of continuity, there is a tension with the actual poll characteristics.

2.2.3.4.a. Tension

Comparing the most recent poll results with other polls or with external information in news reports may contribute to a particular representation of collective opinion that is constantly changing or moving. Broh (1980), for example, contends that journalists typically report upon poll differences as real opinion changes so that instability of opinions or volatility of votes during election periods is overemphasized. This can be reinforced if journalists choose points of comparison (other pollsters, other time points etc.) that stress these constant opinion changes (Broh, 1980, p. 510; 518). Trend lines interpreted as real opinion changes based on polls carried out by different pollsters, with different polling techniques, at a different occasion may be due to methodological differences, rather than real opinion changes. For example, Brettschneider (1997, p. 260) found that in German newspaper articles about pre-electoral polls, poll results were typically compared with past polls without taking into account the specific methodological characteristics of the polls, such as exact question wording, which could account for the actual differences observed.

2.2.3.4.b. Expectations for Flemish case

Based on the news criterion of continuity, it may be expected that news media will use poll comparisons in order to publish continuous poll news. However, by making over-time trends in the news, the particular methodological characteristics of opinion polls may be neglected, which might account for the observed differences. Therefore, an indication that the news media would manufacture continuous poll news would be that they use poll comparisons, and in particular those comparisons with polls conducted at a previous point in time and by a different pollster, of which the differences are interpreted as continuous opinion changes, rather than in terms of the underlying methodological poll differences.

2.2.4. Objectives of the empirical analysis of Flemish newspapers

This section summarizes the main objectives of the empirical analysis about poll news and the questions to be addressed, as well as the indicators used in the content analysis of Flemish newspaper articles about opinion polls published between 2000 and 2006. Two research questions are addressed about the relationship between media and opinion polls (media-attention and -involvement), after which specific expectations are studied concerning the manufacturing of poll news, due to tensions between news criteria (frequency, unambiguity, meaningfulness, continuity) and poll characteristics.

The first research question (RQ1) to be addressed is whether the Flemish newspapers follow the international rising trend in the news-media attention to opinion polls during the recent years between 2000 and 2006. Despite ambiguous attitudes towards polls, an increase in the Flemish media attention to poll news can be expected based on observations in neighbouring countries, such as Germany (Brettschneider, 1997, pp. 251-252) or the Netherlands (de Boer, 1995, pp. 130-131). Therefore, it can be expected that the volume of poll news, as well as the centrality of polls within the Flemish newspapers increased between 2000 and 2006. To measure the volume of poll news, the number of poll articles published and the number of words within these articles referring to polls are considered. Furthermore, as indicators of the centrality of polls in the news are used: the article focus (polls as dominant focus, important theme, peripheral use, poll mention), article type (news report, interview, opinion article), number of poll publications placed on the front page and the visibility of unique polls (with the frequency of articles dominantly focusing on particular polls). Subsequently, differences in the media-attention to polls between different types of newspapers are considered, because it might be generally expected that popular newspapers would use more frequently all kinds of opinion polls in their articles, compared with quality newspapers, of which it may be supposed that they would select a fewer number of polls to be reported as news.

The second research question (RQ2) to be addressed is to what degree the media are involved in the polls published, by commissioning or conducting them. Despite criticisms concerning a possible news-making feedback loop for poll news (Kovach, 1980; Crespi, 1980), the historical review of opinion polling (cf. Subsection 2.1) showed that news media seem to be increasingly involved in the polls published. Therefore, it is expected that polls published in the Flemish newspapers are frequently and increasingly commissioned and/or conducted by media. In addressing this media-involvement, a

distinction is made between a poll from the publishing newspaper (or from the same press house) or from other, commercially competing media.

Answering these two research questions about the media-attention to poll news and the media-involvement in polling by empirical data will shed light on the interrelationship between Flemish newspapers and the opinion polls published. Although this relationship seems to be close and intertwined, it is also ambiguous, due to tensions between news criteria on the basis of which newspapers select and create news, and polling criteria to perform high-quality opinion research. Based on these tensions, a third research question (RQ3) addressed is whether news media manufacture poll news, due to the news criteria of frequency (RQ3a), unambiguity (RQ3b), meaningfulness (RQ3c) and continuity (RQ3d).

A first set of expectations (RQ3a) regarding the news-manufacturing role of the Flemish newspapers is based on the tension between the news criterion of frequency to deliver daily and timely poll news on the one hand, and polling characteristics on the other hand. First of all, the frequency criterion suggests that daily publishing newspapers primarily select and create news that resembles the daily rhythm of the news medium. This would not only mean that daily newspapers can use new poll results on a daily basis in their news, but also that they would prefer those polling methods that can deliver very quickly (even every day) new poll results, such as online polls. To study this, first, daily averages of poll publications are calculated per year, after which the polling fieldwork (and more specifically, the number of fieldwork days and the number of days between the fieldwork and poll publication) are considered, as well as the media-use of and media-involvement in online polls. Because the use of online polls in the news is time sensitive, due to general developments in online opinion research during the recent years under study, this was sub-grouped per year.

Furthermore, the news criterion of frequency suggests that especially polls related to current affairs, which are topical at a particular moment, are considered newsworthy to publish as news, rather than, for example, the academic relevance of survey research. This would imply that the publication of poll news would vary depending on the newsworthiness of poll subjects at particular moments. Because especially political elections are highly visible and politically-relevant events, the manufacturing of poll news due to timeliness is studied by focusing on differences in newsworthiness between electoral poll news and more general poll news. To study this, the publication date

(whether or not published during a pre-electoral campaign period) and poll characteristics, such as the poll subject (electoral, general or combined; and its political relevance), as well as the geographical poll range (local, regional, national, international) are taken into consideration. Additionally, the media-involvement in the electoral polls is considered.

A second set of expectations (RQ3b) regarding the news-manufacturing role of media is based on the news criterion of unambiguity, which recommends presenting news, and more specifically poll publications in an unambiguous way, rather than in an ambiguous way, such as emphasizing potential methodological limitations. This would mean that newspaper articles about opinion polls would disclose a limited number of methodological aspects and express a limited number of evaluative poll judgments, despite the typically ambiguous nature of poll results and their methodology. Therefore, the main question regarding the news criterion of unambiguity to be addressed is how newspapers report upon the poll's methodology. Addressing this question will provide an indication of the formal quality of poll publications in Flemish newspapers. More specifically, the disclosure of methodological aspects in poll articles is assessed by the worldwide developed standards of disclosure, on the basis of which disclosure index measures can be calculated. Subsequently, the expression of methodological evaluations in poll articles, as well as their direction and source is considered as an indication of how critical newspapers evaluate the opinion polls they publish. Differences in the methodological reporting of polls that could be a priori expected are studied: between the selected years (is there an increase in the unambiguous poll news over time?); between the types of newspapers, given their characteristics (do quality newspapers report a poll's methodology with a higher formal quality, and hence with more methodological disclosure and a more critical tone?); between types of poll news (are electoral polls and their methodology reported in a more critical way than more general polls?); between polls in which the media were involved and polls from other sources (are media-polls reported differently? And are polls from the 'own' media reported with more methodological background information, as well as with a more positive tone, compared with polls from commercially competing media?).

A third set of expectations (RQ3c) regarding the news-manufacturing role of the media is based on the news criterion of meaningfulness, which suggests to give meaningful interpretations to poll results, although they may transcend the actual interpretation that can be attributed to raw poll percentages. It may be expected that newspaper articles will focus on interpretations and analyses of poll results, rather than disseminate the raw

poll results in a purely informative way without any interpretations. To study this, the degree to which articles used interpretations relative to raw poll results is registered (on a five-point scale), and the nature of the interpretations used are further classified as causal or implicative. Because it may be expected that interpretative news has increased during recent years, differences in the focus on interpretations are tested between the years under study (2000-2006). Additionally, other a priori expectations are examined, namely differences due to the type of poll news (are reports about electoral polls more often interpretative than reports about general polls?), and according to the media-involvement (are media-polls, and in particular polls from the 'own' media more often reported in an interpretative way, than polls from other sources?). Specific types of interpretations that are studied more closely concern the explicit statements in poll articles about a perceived influence on polls (on the opinions polled; the poll results) and from polls (from the release of the poll results), as well as interpretations of poll results in terms of the 'will' of the public. Such statements could contribute to a particular media-manufactured image of polls and collective opinion that is disseminated to the public.

Finally, a fourth set of expectations (RQ3d) regarding the news-manufacturing role of the media is based on the news criterion of continuity, which recommends selecting and creating follow-up news. This would mean that newspapers could create 'artificial' continuities with poll results. An indication used to study this is the use of poll comparisons, as this may eventually lead to the creation of trend-lines. Therefore, questions addressed are to what degree poll comparisons are used in newspaper articles, what points of comparison are most frequently chosen to compare polls with (such as time and poll-source), as well as the interpretations of poll comparisons that newspapers include in their articles (to support opinion change/stability, confirm/contrast a trend, prove methodological (in)accuracy; or interpretations in terms of a 'snapshot').

2.3. Research design

To study the interrelationship between news media and opinion polls (media-attention to and media-involvement in polls), as well as the manufacturing role of the media in producing news based on opinion polls (due to a tension between news criteria and poll characteristics), a content analysis of Flemish daily newspapers was performed. Although survey research with journalists and media organizations could provide information about the media's attitudes towards opinion polling (de Boer, 1995, p. 75), it was chosen to perform a content analysis of newspaper articles about opinion polls because the main

aim was to study how polls are presented in the news, and hence how these poll publications reach the audience. Therefore, the newspaper article was used as the unit of analysis. First, the selection of the Flemish news media outlets (six newspapers) is motivated, as well as the selection of the time period under study (six recent years); after which information is presented about the data collection, as well as the coding and the reliability of this coding.

2.3.1. Data selection

To study poll news, six Flemish newspapers and a time period of six recent years were selected. These selections are respectively motivated.

2.3.1.1. Selection of newspapers

To content analyze Flemish newspaper articles about polls, the six most important daily newspapers concerning news dissemination in Flanders were selected, namely the so-called quality papers *De Standaard*, *De Tijd*, *De Morgen* and the more popular newspapers *Gazet Van Antwerpen*, *Het Nieuwsblad* and *Het Laatste Nieuws*[12]. First of all, these newspaper titles were selected because of their wide dissemination or circulation among the general public in Flanders[13], and hence of their potential role as opinion leaders within the Flemish media. Additionally, this selection of newspapers entails quality or broadsheet newspapers, as well as popular or tabloid newspapers (Manssens & Walgrave, 1998, pp. 7-11; De Bens & Raeymaeckers, 2007). Furthermore, through this selection, the largest press houses, as well as the papers' different political origins were represented in the selection of the newspaper articles[14].

The selection of merely newspapers limits the conclusions that can be drawn regarding the overall Flemish news media use of polls, as this entails also television news bulletins,

[12] The newspapers *Het Volk* and *De Gentenaar* were not selected to be studied as they had a similar content to the popular paper *Het Nieuwsblad*. Similarly, the newspaper *De Nieuwe Gazet* was not selected as it has a regional focus on the news of the paper *Het Laatste Nieuws*. Although the paper *De Tijd* was labeled *De Financieel Economische Tijd* in 2000, the most recent name *De Tijd* is used consistently throughout this dissertation.

[13] Information about the circulation (number of copies printed) of the newspapers selected, based on CIM-figures 2005 (Centrum voor Informatie over de Media / Centre for Information about the Media,): the quality newspapers *De Standaard*, 98.685; *De Tijd*, 47.557; *De Morgen,* 69.351; the popular newspapers *Gazet Van Antwerpen*, 134.649; *Het Nieuwsblad/De Gentenaar* 263.899; *Het Laatste Nieuws/De Nieuwe Gazet,* 349.350.

[14] The newspapers *De Standaard* (origins: catholic, centre-right) and *Het Nieuwsblad* (origins: catholic, centre-right) are edited by press house Corelio; *Gazet van Antwerpen* (origins: catholic, centre-right) is edited by Concentra Media; the papers *De Morgen* (origins: socialist, left), *Het Laatste Nieuws* (origins: liberal, right) and *De Tijd* (origins: independent) are edited by de Persgroep.

radio news broadcasts, weekly magazines and news Websites on the Internet. Especially differences between newspaper and television coverage of polls found in previous research are important to consider. For example, Smith and Verall (1985, p. 66) observed that only 16 percent of the Australian television news stories contained specific poll results, whereas the large majority contained no quantified data and only general references to polls. Indeed, it may be expected that newspapers have generally more space available to report upon different opinion polls in a more comprehensive way than television news. A closely related observation has been that newspapers disclose more methodological poll information than television news (de Vreese & Semetko, 2002, pp. 378-379; Andersen, 2000, pp. 292-294; Paletz et al., 1980, pp. 503-504). Therefore, it may be assumed that newspaper articles have a greater opportunity to disclose methodological information and express evaluative poll judgments than television items about polls (Suhonen, 2001). Moreover, due to regular joint cooperation between different news media organizations to sponsor opinion polls, newspapers are often also involved in the polls that are commissioned by a television broadcaster. This is especially the case for 'larger' or more visible polls, such as during elections[15]. Accordingly, it may be suggested that polls on television are likely to be reported in the newspapers as well; whereas probably not all polls in newspapers will be used in the television news (cf. Chapter 7 in Part II for empirical findings about this). But despite these limitations, the newspaper analysis will provide important empirical information about the use of opinion polls in the Flemish news.

2.3.1.2. Selection of time period

Because there is a general impression of a current increase in poll news in Flanders, relatively recent data was collected between 2000 and 2006, which were both years in which local elections were held (both in October). To select the years in between, an interval of two years was chosen in order to obtain both election and non-election years; 2002 was without any elections, and in (June) 2004 another type of election was held (European and regional elections). In this way, both electoral and electoral-free periods were represented in the period selected, as well as the regular and dissimilar organization of different kinds of elections in Flanders (Belgium). Rather than selecting weeks or days within these years, the entire years were examined in order to have an overview of the manufacturing of daily poll news throughout the different years.

[15] For example, the large electoral polls commissioned by the public broadcaster *VRT* have been organized in joint cooperation with the quality newspaper *De Standaard*. Similarly, the commercial television outlet *VTM* is involved as one of the commissioners of the three-monthly electoral poll in Belgium, besides the newspapers *La Libre Belgique*, *De Morgen* and *Het Laatste Nieuws*.

2.3.2. Data collection

Within the newspapers and years selected, newspaper articles were collected and registered in a database in which the articles were the unit of analysis. An overview of the data collection process and the number of selected articles is shown in Table 2-4.

Table 2-4: Number of articles per selection stage

	2000	2002	2004	2006	Total
1. All articles with explicit reference to 'poll' in text or title	538	1183	1358	1319	4398
2. Articles about *opinion* polls that included *Belgian* respondents	227	338	678	826	2069
3. Additional selection by poll name	-	-	+28	+647	
(Total number of registered poll articles)	(227)	(338)	(706)	(1473)	(2744)
4. Content analysis if ≥60% of the article is related to polls	124	192	375	668	1359
(% of articles content analyzed, relative to total number of registered poll articles)	(54.6%)	(56.8%)	(53.1%)	(45.3%)	(49.5%)

First, all articles explicitly referring to the keyword 'poll' in the title or text were retrieved from the electronic press database *Mediargus*[16], including news reports, interviews and opinion articles about poll results, their interpretations and methodological evaluations. Only the letters of particular audience members to the newspapers were not taken into consideration, since the focus of the study was on the news media presentation of opinion polls, rather than on particular citizen's opinions, which are closely related to 'vox pops' or man-in-the-street interviews as other possible representations of 'public opinion' (Brookes, 2004, p. 66; Traugott, 2008, p. 232).

Similar to the operationalized definition of a poll by de Boer (1995, pp. 82-89), or Kim and Weaver (2001, pp. 76-77), all news articles about 'opinion research that used a questionnaire to poll a sample of the public' were retrieved. Both articles referring to specific opinion poll data and articles referring to polls in general were registered. The selection of poll articles was not constrained by the poll subject, as polls about electoral and general issues were selected; nor by the commissioners or pollsters, so that both media-polls and non-media polls were registered; nor by the methodology, so that both non-probability- and probability-based polls were included. Although these aspects were not used to restrict the selection of poll articles, they were further coded as poll characteristics during the substantial content analysis.

[16] The electronic press database '*Mediargus*' is publicly available through the KULeuven libraries at the Website: http://www.mediargus.be.

Then, from the articles with an explicit reference to polls, only those concerning an *opinion* measurement including *Belgian* respondents were selected. Following Suhonen (2001), a quite liberal interpretation of an 'opinion' poll was used, as not only polls about opinions, attitudes, beliefs and intentions were selected, but also polls about people's activities, lifestyle conditions and behaviour. In this way, also articles on polls about, for example, media use, health and employment were included in the data collection obtained. Suhonen observed that the use of these polls in politics and journalism was quite similar to the use of polls on strictly cognitive and evaluative aspects, since both may provide political actors with information on 'people's lives and enable social comparisons' (Suhonen, 2001, p. 315; 320). Therefore, the polls in the selected articles may concern subjective feelings or evaluative judgments, as well as more objective, factual information of respondents (de Boer, 1995, pp. 80-82).

During data collection, it was observed that articles about two specific, but very important polls during the 2006 elections ('De Stemmenkampioen' /*The Voting Champion* and 'Het Grootste Buurtonderzoek' / *The Largest Neighbourhood Survey*) were not sufficiently selected because they do not have the word 'poll' in their name. Therefore, an additional selection of articles was performed based on the name of those polls very visible in the media. It was observed that for other polls visible in the media, such as those commissioned by *La Libre Belgique* or *VRT*, it was consistently referred to the explicit notion of 'poll' (e.g. 'the *La Libre Belgique*-poll'), so that an additional selection did not provide other articles to be included in the database.

From the total number of registered articles which contained an explicit reference to opinion polls in which Belgian respondents were included (n=2744), the article text itself was electronically saved and general information was collected in a database of articles, such as the newspaper title, the publication date, the article title and the total number of words of the article. The latter was counted by a text-processing program (i.e. Word). The articles with any reference to polls were used to gain an initial indication of the general media-attention to polls. However, a distinction was made between news stories that only referred to opinion polls and those that dealt substantially with opinion polls (de Vreese & Semetko, 2002, p. 375). Accordingly, the substantial content analysis, based on a standardized coding instrument (cf. Table 2-5), was performed on those articles that were predominantly reporting on polls, namely those in which at least 60 percent of the text referred to poll results, interpretations or methodology. This distinction in the articles was based on the percentage ratio of the number of words of the specific text parts

about polls, relative to the number of words of the entire article. For this, all articles were read by the researcher and the words actually related to opinion polls (results, methodology, interpretations) were highlighted within the article text, and subsequently counted by a text-processing program. In this way, only articles that reported upon polls in a substantial way were taken into consideration (n=1359) to study the manufacturing role of the newspapers in producing poll news due to the tension between news criteria and poll characteristics. All the stages, from retrieving articles from the press database and collecting general information about them, to the coding and analysis of the content of the articles was initially performed solely by the researcher. A sub-sample of the poll-dominant articles was in a later stage coded by an independent coder. Before this intercoder-reliability is considered, the coding instrument is presented.

2.3.3. Coding instrument

The development of the coding instrument was based on indicators from different previous content analyses of news reports about opinion polls, such as from Brettschneider's study (1997) of German newspaper articles about pre-electoral polls in the twelve weeks before federal elections between 1980 and 1994; de Boer's dissertation study (1995) of Dutch newspaper articles about all kind of opinion polls between 1960 and 1991; Smith and Verall's study (1985) of Australian (Victorian) television news items about pre-electoral polls in the last two weeks of the 1980 electoral campaign; Suhonen's study (2001) of opinion polls published by the Finnish newspapers, radio and television news broadcasts during three non-electoral weeks in 1997; Andersen's study (2000) of Canadian television and newspaper reporting of pre-electoral polls during the 1997 election; de Vreese and Semetko's study (2002) of Danish news reports, including poll reports, in newspapers and television news bulletins in the final month of a referendum campaign in 2000 on the introduction of the Euro; the study of Paletz et al. (1980) about poll news in the American print and television news between 1973 and 1977; the study of Miller and Hurd (1982) about American newspaper articles referring to polls between 1972 and 1979. By using indicators that were empirically studied in previous research, it is possible to compare the own findings with results observed in other countries, such as Germany, the Netherlands, Finland, Denmark, the US, Canada and Australia, though differences in the selected years and poll subjects (e.g. electoral, referendum) of the different studies should be noted. Table 2-5 provides an overview of the coding instrument with a short description of each variable.

Table 2-5: Summarized coding instrument: variables & coding descriptions

Articles with any reference to polls (n=2744)	
Newspaper title & type	Newspaper title and type was registered as follows: A) Quality papers: 1/ *De Standaard*, 2/ *De Morgen*, 3/ *De Tijd* B) Popular papers: 4/ *Gazet van Antwerpen*, 5/ *Het Laatste Nieuws*, 6/ *Het Nieuwsblad*
Publication date	Publication date of article was registered (DD/MM/YEAR)
Article title	Exact article title (headline) was copied
Total number of words	Total number of words of the article text was counted
Number of words of text parts about polls	Number of words within the article text referring to opinion polls (results, methodology, interpretations) was selected and counted
Articles with polls as dominant focus (n=1359)	
Type of article	1/ news report, 2/ interview, 3/ opinion article, 4/ other: …
Page	The newspaper page on which the article was placed was registered
Poll subject	Poll subject was categorized as 1/ electoral (voting intentions, popularity of politicians), 2/ general (other than 1), 3/ combined (both electoral and general)
Geographical poll range	Geographical poll range was derived from information in the article about the polled respondents: 1/ local, 2/ regional, 3/ national, 4/ international, 5/ unknown
Unique poll reported	From information in the article about the poll's characteristics, it was registered whether the article focused on 1/ a recent unique poll, 2/ a poll that was previously focused on, or 3/ a non-specific poll
Methodological information	Disclosure per methodological aspect[17] was registered with a distinction between specific information (a/ name of polling institute, b/ name of sponsor, c/ definition of target population, d/ exact sample size, e/ description of sample procedure, f/ poll method, g/ exact fieldwork dates, h/ exact question wording) and less specific information (a-b/ some reference to a pollster, g/ some time indication, h/ some questionnaire information)
Methodological judgment	Number of explicit methodological statements per article was counted
Direction of judgment	If judgment was present, its evaluative direction was coded on a 5-point scale with a neutral middle point (1=very negative/unreliable-5=very positive/reliable)
Source of judgment	If judgment was present, its source was coded as 1/ journalist, 2/ politician, 3/ academic, 4/ pollster, 5/ other

(Table continues on next page)

[17] Based on the standards of disclosure stated by most of the following survey research organizations: ESOMAR/WAPOR, AAPOR, NCPP, CASRO, Febelmar (Belgium).

Articles with polls as dominant focus (n=1359)	
Interpretation of poll results	Main focus of poll report was coded on a 5-point scale: 1/ article consisted entirely of raw poll results, without any interpretation, 2/ article consisted for the largest part of raw poll results, with a few interpretations, 3/ half of the article consisted of raw poll results, while the other half were interpretations, 4/ article consisted for the largest part of interpretations, with a few raw poll results, 5/ article consisted entirely of interpretations without any raw poll results. Articles without poll results or interpretations were coded as N/A (not applicable)
Nature of interpretations	If an interpretation of poll results was present, it was coded as 1/ causal interpretation (past; reason) or 2/ implicative interpretation (future; conclusion)
Perceived influence on polls	If a causal interpretation was present, statements about perceived influence on polls were registered (on opinions polled)
Perceived influence from polls	If an implicative interpretation was present, statements about perceived influence from published polls were registered
Public's "will"	Statements interpreting poll results in explicit terms of the public's "will" (de wil van het publiek) were recorded
Poll comparisons	Presence of poll comparison with 1/ other polls, 2/ election outcome was coded
Time of comparison	If polls were compared amongst each other, the time of comparison was coded as 1/ recent poll (published at similar time), 2/ past poll (published at previous time), 3/ both recent and past polls were compared
Source of comparison	If polls were compared amongst each other, the source of comparison was coded as 1/ identical pollster, 2/ different pollster, 3/ both identical and different pollsters were compared
Interpretation of comparison	If polls were compared amongst each other, the presence of the following interpretations of the comparison was recorded: a/ change of opinion, b/ stability of opinion, c/ confirmation of trend, d/ contrasting with trend, e/ methodological accuracy, f/ methodological inaccuracy
"Snapshot"	Statements explicitly referring to a poll as a "snapshot" (momentopname) were registered

2.3.4. Reliability

Reliability of the performed coding is a necessary condition to be tested in content analysis, though it does not guarantee validity (Krippendorff, 1980, p. 129; 2004). Before the coding reliability of the present content analysis is discussed, information about pre-testing of the coding instrument is provided. A pre-test of an initial version of the coding instrument was performed after the development of the coding instrument on the basis of previous research and the collection of relevant poll articles within the four years selected. More specifically, the articles of the year 2000 were coded first, as a pre-test (n=227 of which 124 poll-dominant articles). During this preliminary coding process, it was

registered what variables or categories should be adjusted or omitted in order to obtain a higher degree of clarity and a more exhaustive categorization. After revision of the coding instrument based on this first coding experience and accordingly adjustment of the coding results of the year 2000, the other years were coded by the same coding instrument. No further adaptations were made to the coding instrument, in order to obtain similar results in the different years under consideration. Several comparative checks during coding directly contributed to a higher degree of consistency.

In addition to internal coding consistency, knowledge about reliability of coding is important in evaluating the degree of generality of the coded data, namely that the obtained ratings are not the idiosyncratic results of one observer's subjective judgment (Tinsley & Weiss, 1975, p. 359). Krippendorff (1980) distinguishes between three types of coding reliability. The first is stability, which refers to the degree to which the same coder obtains similar coding results at different moments in time. The second is reproducibility, or the degree to which different coders obtain similar coding results. While the first tests intracoder reliability, the second tests intercoder reliability. The third type of coding reliability is accuracy, or the degree to which the coding results diverge from a certain standard or norm. The latter (accuracy) is considered the strongest indicator of coding reliability, while the first (stability) is considered the weakest. However, for content analyses, it is mostly not possible to test the strongest reliability indicator of accuracy. Therefore, Krippendorff argues that 'data should at least be reproducible, by independent researchers, at different locations, and at different times, using the same instructions for coding the same set of data' (Krippendorff, 1980, 132).

Intercoder reliability in content analysis specifically refers to intercoder *agreement*. Indeed, it is required that different coders assign the same rating to each subject (Tinsley & Weiss, 1975). In case of low intercoder reliability, four further subdivisions in reliability can be made. First, unit reliability refers to the variation in reliability level that may exist between different variables with a different degree of coding complexity. Second, individual reliability is dependent on the person(s) who judged the data. Third, single category reliability indicates that within a variable, the ambiguity of a particular category may be the reason for a lower level of reliability for a (nominal) variable. Finally, conditional reliability means that in the case of double coding decisions (e.g. firstly, deciding whether a characteristic is present in a unit; secondly, judging this characteristic), each decision moment can have a different level of intercoder reliability (Krippendorff, 1980; de Boer, 1995).

To test intercoder reliability, no standard measure has been accepted by the research community (Hayes & Krippendorff, 2007, p. 78). Instead, different measures have been developed, with different characteristics. The most important difference between these measures is that so-called liberal indices such as 'Percent Agreement (P)' or 'Holsti's Composite Reliability (CR)' do not take into account the chance of random agreement between the coders, while more conservative reliability tests such as 'Cohen's Kappa', 'Scott's Pi' or 'Krippendorff's alpha' do take into account this chance of random agreement. Especially because percent agreement measures are inflated by random agreements, they are considered flawed and inappropriate as measures of intercoder agreement (Hayes & Krippendorff, 2007, p. 79; Tinsley & Weiss, 1975, p. 374; Lombard, Snyder-Duch, & Bracken, 2002, pp. 590-591). Furthermore, these measures treat agreement as absolute and hence, have no meaningful reliability scale, because the minimum point of zero percent agreement would only occur if the coders disagree on every unit being judged, which is highly unlikely. Other indices used in the early days that have become indefensible for intercoder reliability are Cronbach's alpha and other correlation-based indices, which standardize coder values and only measure covariation, or association coefficients, such as the Chi-square test, which produce high values for both agreement and disagreement deviating from the expected agreement by chance (Banerjee et al., 1999; Lombard et al., 2002; Krippendorff, 2004).

In addition to the absence of a standard intercoder reliability measure to be tested in content analysis, there are also no established standards for determining an acceptable level of reliability. For example, Lombard et al. (2002) note that coefficients of 0.90 or greater are acceptable for all, 0.80 or greater would be acceptable in most situations and 0.70 may be appropriate in exploratory studies or for some indices (Lombard et al., 2002). Generally, a reliability level of at least 0.80 is required, though it may be between 0.60 and 0.80 for variables for which tentative conclusions are acceptable (Krippendorff, 2004, p. 429; de Boer, 1995).

For the present content analysis, two indices of intercoder reliability were calculated: Cohen's Kappa (cf. Cohen, 1960; 1968) and Krippendorff's alpha (cf. Hayes & Krippendorff, 2007). Both belong to the more conservative group of measures which test intercoder reproducibility that account for the role of agreement expected by chance between the coders. The first measure of intercoder reliability used, Cohen's Kappa, was proposed by Cohen (1960) to measure the level of agreement for nominal variables

between two coders, taking into consideration chance agreement. Although negative values are possible for Cohen's Kappa, it generally ranges between 0 and 1. Higher values represent better agreement between the coders and a Cohen's Kappa of 1 means perfect intercoder agreement. In addition to the simple Kappa coefficient that can be used for nominal variables, a weighted Kappa coefficient was introduced as an extension of the simple Kappa by Cohen (1968), which can be used for ordinal variables. Whereas the simple Kappa assumes all disagreements between the coders equally serious, the weighted Kappa differentially weights disagreements among the ratings (Cohen, 1968; Tinsley & Weiss, 1975; Banerjee et al., 1990). The simple or weighted kappa coefficients were obtained for each variable, depending on their measurement level, by the frequency procedure in the software program Sas (option 'agree').

The second measure of intercoder reliability, Krippendorff's alpha was additionally selected to compute because the use and interpretation of Kappa has been controversial (Banerjee et al., 1999; Lombard et al., 2002). For example, it has been argued that Cohen's Kappa mixes two inherently different components of disagreement: disagreement due to intercoder bias and disagreement due to a different rank-order of subjects between the coders. Accordingly, Cohen's Kappa allows systematic disagreements, and hence may inflate the reliability value (Banerjee et al., 1999, p. 6; Hayes & Krippendorff, 2007, p. 81). Krippendorff's alpha has a wider application range than Cohen's Kappa, as it can be used regardless of the number of observers, levels of measurement (nominal, ordinal, interval and ratio), sample sizes and presence of missing data (Hayes & Krippendorff, 2007; Lombard et al., 2002). Since Krippendorff's alpha cannot be computed by a standard software program, it was computed by using an online available macro ('KALPHA'), which is a customized program written for Sas by Hayes and Krippendorff (2007).

In order to measure intercoder reliability, it is important to have a representative sample from the universe of data (Krippendorff, 2004; Hayes & Krippendorff, 2007; Lombard et al., 2002). It is recommended that this sub-sample represents at least 10 percent of the universe dataset (Neuendorf, 2002). Accordingly, a random selection procedure was used to draw a sub-sample of 10 percent of the dataset about which the reliability was to be tested. More specifically, from the 1359 poll articles content analyzed by the researcher, 136 articles were randomly selected by a standard sample-selection procedure in Sas (proc surveyselect). Only articles that substantially dealt with opinion polls were coded again (at least 60 percent of the article text was related to poll news), in

order to ensure the possibility of coding the presence of methodological poll information in the articles.

Furthermore, it is important that different raters work independently from each other (Krippendorff, 2004; Hayes & Krippendorff, 2007; Lombard et al., 2002). In the present study, the initial content analysis of all the data collected was performed by the researcher. To obtain intercoder reliability indices, a bachelor student in sociology was hired as another coder who repeated the content analysis for the randomly selected sub-sample of newspaper articles about polls. First, she received training from the researcher to become familiar with the coding instrument on the basis of coding examples and additional explanation of the variables and codes, after which she independently read and judged the random sub-sample of newspaper articles about polls. While the initial content analysis was conducted by the researcher in December 2006, the repeated content analysis was performed by the independent coder as a vacation job during July 2009[18].

Before the intercoder reliability measures are presented, some general descriptives are provided about the random sub-sample, compared with the dataset of poll articles from which it was selected. As can be seen from Table 2-6, the random sub-sample of newspaper articles to be repeatedly content analyzed did not significantly differ from the universe data from which it was selected for the basic characteristics year, newspaper title, newspaper type and poll type. Therefore, the randomly selected sub-sample can be considered representative for the data for which the intercoder reliability was tested.

The intercoder reliability findings for Cohen's Kappa and Krippendorff's alpha are presented for each variable that was repeatedly coded by the researcher and an independent coder in Table 2-7. This table explicitly refers to the kind of coding that was performed for each variable. More specifically, for some variables characteristics of the poll article had to be coded on the basis of a standard categorization, while for others the mere presence in the article had to be registered. For the methodological disclosure aspects and methodological judgments, a double decision had to be made: firstly,

[18] Especially due to pragmatic reasons, there was this large time span between the initial and repeated content analysis. In this way, the hired job student could code not only the sample of newspaper articles of the present content analysis, but also the sample of television items and newspaper articles from the content analysis reported in Chapter 8 of Part II. Since a similar, though shortened version of the coding instrument was used for this second content analysis, the involved job student could easily work on both studies in a subsequent way.

registering whether the characteristic was present in an article and secondly, coding this characteristic, if present, on the basis of a standard categorization. An implication of this is that the number of units to be judged was smaller for the second coding decision (based on the characteristic if present in an article) than for the first (based on the entire sample of newspaper articles).

Table 2-6: Comparison between original dataset of poll articles (n=1359) and random sub-sample within this dataset (n=136), for assessment of intercoder reliability

	Original dataset (n=1359)	Random sub-sample (n=136)	
Variable	%	%	(n)
Year			
2000	9.12	10.29	(14)
2002	14.13	13.97	(19)
2004	27.59	33.09	(45)
2006	49.15	42.65	(58)
Sig. Test	$Chi^2(df=3)=1.40$; p= .7050		
Newspaper title			
De Standaard	19.87	17.65	(24)
De Morgen	11.77	13.24	(18)
De Tijd	9.86	11.03	(15)
Gazet van Antwerpen	13.83	13.97	(19)
Het Laatste Nieuws	28.11	28.68	(39)
Het Nieuwsblad	16.56	15.44	(21)
Sig. Test	$Chi^2(df=5)=.45$; p= .9940		
Newspaper type			
Quality	41.5	41.91	(57)
Popular	58.5	58.09	(79)
Sig. Test	$Chi^2(df=1)=.005$; p= .9451		
Poll type			
Electoral	43.05	45.59	(62)
General	41.28	44.85	(61)
Combined	15.67	9.56	(13)
Sig. Test	$Chi^2(df=2)=2.31$; p= .3145		

Note: Frequencies (n) are mentioned for the subcategories that contained less than 100 observations

Table 2-7: Intercoder reliability indices Cohen's Kappa & Krippendorff's alpha for repeatedly content analyzed sub-sample of poll articles (n=136)

Variable	(n)	Cohen's Kappa	Krippendorff's alpha
General information			
Coding of article type	136	0.9059	0.9062
Presence of poll subject:			
Voting intentions	136	0.9706	0.9707
Popularity of politicians	136	0.9394	0.9396
General issue	136	0.9852	0.9852
Coding of geographical poll range	136	0.9509	0.9510

(Table continues on next page)

Variable	(n)	Cohen's Kappa	Krippendorff's alpha
Methodological disclosure			
Name of polling institute (explicit)			
Presence in article	136	0.9751	0.9752
Coding of methodological aspect	24	1	1
Name of sponsor (explicit)			
Presence in article	136	0.9608	0.9609
Coding of methodological aspect	33	1	1
Reference to pollster (less specific)			
Presence in article	136	0.9254	0.9256
Coding of methodological aspect	57	1	1
Definition of target population			
Presence in article	136	0.9809	0.9810
Coding of methodological aspect	35	1	1
Exact sample size			
Presence in article	136	0.9841	0.9842
Coding of methodological aspect	49	1	1
Sampling procedure information			
Presence in article	136	1	1
Coding of methodological aspect	1	N/A	N/A
Method of data collection			
Presence in article	136	0.9724	0.9725
Coding of methodological aspect	21	1	1
Fieldwork time indication			
Presence in article	136	0.9751	0.9752
Coding of methodological aspect	24	1	1
Questionnaire information			
Presence in article	136	0.9254	0.9256
Coding of methodological aspect	23	1	1
Methodological judgments			
Number of judgments present in article:			
1	136	0.9134	0.9136
2	136	0.8811	0.8815
3	136	0.8851	0.8855
4	136	1	1
Coding of direction of judgment (*)	53	0.9303	0.9659
Coding of source of judgment	53	1	1
Poll interpretations			
Coding of degree of interpretations in article (*)	136	0.9767	0.9122
Nature of interpretations present in article:			
Cause (past)	136	0.8596	0.8599
Implication (future)	136	0.8099	0.8105
Perceived influence present in article:			
On polls (opinions)	136	0.8574	0.8579
From polls (on politics, policy, public)	136	0.8849	0.885
Public's “will” present in article	136	0.8256	0.8263

(Table continues on next page)

Variable	(n)	Cohen's Kappa	Krippendorff's alpha
Poll comparisons			
Presence of time comparison:			
With recent poll	136	0.8921	0.8925
With past poll	136	0.9217	0.9219
Presence of source comparison:			
With identical pollster	136	0.9525	0.9526
With different pollster	136	0.9292	0.9294
Presence of interpretation of comparison:			
Opinion change	136	0.9134	0.9136
Opinion stability	136	0.8534	0.8539
Confirm trend	136	0.9011	0.9015
Contrast trend	136	1	1
Prove accuracy	136	N/A	N/A
Prove inaccuracy	136	1	1
Poll as "Snapshot" present in article	136	0.9434	0.9436

Note: Ordinal variables are indicated with an asterisk (*), for which the weighted Kappa coefficient, instead of the simple Kappa coefficient was computed (cf. Cohen, 1960; 1968). N/A stands for 'not applicable', when the number of units judged was zero, and hence no intercoder reliability indices could be computed

Table 2-7 shows that all variables repeatedly coded by the researcher and an independent coder had a reliability level of at least 0.80, which is generally considered an acceptable intercoder reliability level. It can be noted that despite the controversy about the intercoder reliability measure Cohen's Kappa (Banerjee et al., 1999; Lombard et al., 2002), overall only small differences were observed between the Kappa and Krippendorff's alpha. Slightly larger differences were found for the variables with an ordinal measurement level. It may be suggested that even larger differences could be found when more than two coders would be involved in the calculation of the intercoder reliability indices.

The independent coding was only used to evaluate the reliability of the coding performed by the researcher. In case of disagreement between the coders, no changes were made to the initial analysis of the researcher.

2.4. Content analysis of Flemish newspaper articles about polls, published during four years in the period between 2000-2006

In this section, the results of the content analysis of Flemish newspaper articles, published during four years in the period between 2000 and 2006 are presented. First, the two research questions about the interrelation between news media and opinion polls (media-attention to and media-involvement in polls) are addressed, after which the previously

formulated expectations about the media-manufacturing of poll news are studied, based on tensions between news criteria (frequency, unambiguity, meaningfulness, continuity) and poll characteristics.

2.4.1. Rising media-attention to poll news

Given the worldwide rising trends in the news-media attention to opinion polls, the first research question (RQ1) to be addressed is whether the Flemish newspaper attention to opinion polls has increased during the recent period between 2000 and 2006. To study this, both the volume of poll news and the centrality of polls in the news are respectively considered, after which differences between the newspapers concerning the media-attention to poll news are examined.

2.4.1.1. Volume of poll news

To examine the potential increase of the Flemish newspaper attention to poll news, first the volume of poll news was studied, based on the number of articles published about opinion polls and the number of words within these articles referring to polls.

2.4.1.1.a. Number of articles

An important first indication of a possible increase in the volume of poll publications would be an increase in the absolute number of paper articles about polls published by the Flemish newspapers in the period between 2000 and 2006. Based on the 2744 selected articles with any reference to polls, and the 1359 articles that were content analyzed if at least 60 percent of the article text dominantly focused on opinion polls, the quantitative evolution of publicized poll articles is depicted in Figure 2-1.

As Figure 2-1 shows, an enormous increase was observed in the absolute number of paper articles referring to opinion polls published in the six studied newspapers in Flanders in the four years studied between 2000 and 2006. During this period, the number of articles referring to polls has grown from 227 articles in 2000, to 338 articles in 2002, 706 articles in 2004 and 1473 articles in 2006. A similar increase was observed for the articles that dominantly focused on opinion polls, if at least 60 percent of the article text was about opinion polls (from 124 articles in 2000, to 668 articles in 2006). Such an increase in the article volume about polls could be expected, based on trends about an increasing frequency with which newspapers have published poll reports in other countries, such as Germany (Brettschneider, 1997, pp. 251-252) or the Netherlands (de

Boer, 1995, pp. 130-131). Although only a time period of six years was taken into consideration, which can be considered too short to demonstrate trends over a longer period of time, Figure 2-1 nevertheless provides an important indication of the absolute increase in the frequency with which Flemish newspapers have selected and created news based on opinion polls during recent years.

Figure 2-1: Absolute number of paper articles with any reference to polls per year and articles with polls as dominant focus

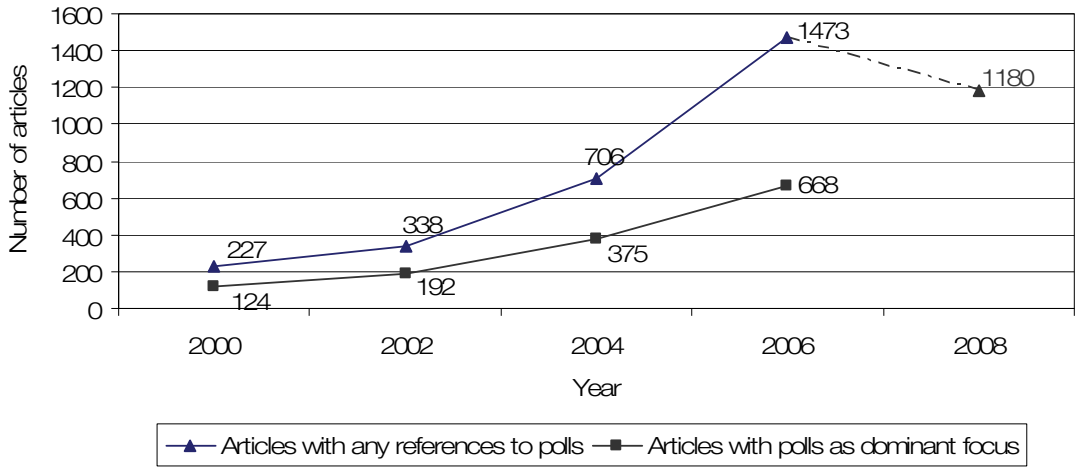


Figure 2-1 contains additionally the number of absolute poll articles published in 2008. For this year, the article volume with any reference to opinion polls was counted, though not content analyzed. The reason for this was that the year of 2006 might be rather exceptional due to some major opinion polls conducted before the communal elections in Flanders, such as 'The Largest Neighbourhood Survey'. Therefore, in line with the original analysis and selection of the years, the year of 2008 was selected to additionally count the poll articles in the same Flemish newspapers. The figure indeed shows that the rising trend has slightly weakened between 2006 and 2008. However, the trend still indicates an increase in the absolute number of poll publications between 2004 and 2008. Furthermore, it should be noted that 2008 was a year without any elections in Flanders, compared with 2006 in which communal elections were being held. Compared with another electoral-free year, 2002, still more poll articles were published in 2008.

It should be noted that the focus is on the *absolute number* of poll articles published, which was not formally controlled for the size of the newspaper. Indeed, limitations due to the data collection by the press database *Mediargus* did not enable to have information about the total number of articles published in the newspapers. Previous research from

De Bens and Raeymaeckers (2007) did only mention that Flemish newspapers have introduced various supplements as from the 1990s, but without reference to empirical data about such trends. These supplements are mostly about lifestyle issues (such as health, leisure, gastronomy, culture and travel), which is an indication of 'service journalism' (De Bens & Raeymaeckers, 2007, p. 248). To have some idea about the possible increasing size of newspapers over time, the number of poll articles appearing in the first twenty pages was explored. It was observed that in 2000, almost 100 percent of the poll articles appeared in these first twenty pages of a newspaper, which decreased over time to 80 percent in 2006. Thus, although newspapers included more supplements, a large majority of the poll articles was still published in the twenty first pages. Another explanation for differences over time might be the change of page format on which the articles were printed. For example, the quality paper *De Standaard* changed its format in 2004 to a smaller so-called tabloid version (De Bens & Raeymaeckers, 2007, p. 148). In this way, automatically more pages are needed to present the same information. However, the limitation that only absolute numbers of poll articles were taken into account, rather than relative numbers controlled for the size of the newspapers should be remembered during the further presentation of the results.

2.4.1.1.b. Number of words

Apart from the number of articles referring to polls published, the number of words within these poll articles (n=2744) was considered as an additional indicator to measure the volume of poll news in the Flemish newspapers between the years of 2000 and 2006. The assumption is that the higher the proportional text contribution to opinion polls, the higher the importance of the subject 'poll' in the news (de Boer, 1995, p. 106). To study this, the number of words of the specific text parts about polls, the number of words of the entire poll article, as well as their percentage ratio was considered. As it was not possible to determine the actual article volume in square centimeters or number of columns, due to the format in which the articles were retrieved from the press database (i.e. text documents with a similar lay-out), the most appropriate measure for the text size was the number of words. First, the total number of words of the entire article was counted (including the article title, but excluding the newspaper title and author name), after which the article text was read by the researcher and the words that referred to polls, such as about poll results, methodology and interpretations were highlighted in the text, which were subsequently counted by a text-processing program (i.e. Word). Based on the number of words of these specific text parts about polls, relative to the number of words of the entire article, then, the percentage ratio between them was calculated.

Table 2-8 presents information about the total number of words in poll articles and the number of words within the article specifically related to polls. Significant differences were found between the years under study regarding the total number of words in poll articles (Kruskal Wallis Chi^2 (df=3)=10.20; p=0.017), as well as regarding the number of words within the article that was specifically related to polls (Kruskal Wallis Chi^2 (df=3)=9.68; p=0.021). Although the maximum size of poll articles increased between 2000 and 2006 (from 3850 to 6543 words), the average number of words of these poll articles decreased (from 581 to 480 words). However, whereas this absolute article volume about polls changed over time, the *relative* article volume referring to polls did not. Indeed, Table 2-8 shows that the proportional text contribution to polls within the articles varied between 58 percent (in 2006) and 63 percent (in 2002), which was not significantly different between the years (Kruskal Wallis Chi^2 (df=3)=1.80; p=0.615). This means that proportionally, a similar amount of the article text was spent on poll-related news between 2000 and 2006.

Thus, although a huge rise was shown in the absolute number of articles with any reference to polls published between 2000 and 2006 (cf. Figure 2-1), the average length of these poll articles became smaller over time. But the proportional text contribution to polls, in terms of the number of words attributed to polls relative to the entire article text remained quite stable over time (cf. Table 2-8).

Table 2-8: Summary of general media-attention to polls by year, based on newspaper articles

	2000	2002	2004	2006	2000-2006
Articles with any reference to polls	(n=227)	(n=338)	(n=706)	(n=1473)	(n=2744)
Number of words:					
- Entire poll article					
Mean	581	563	583	480	525
Range (min-max)	(61-3850)	(35-4865)	(39-5807)	(11-6543)	(11-6543)
- Specific text parts about polls within article					
Mean	280	226	223	197	214
Range (min-max)	(15-1922)	(11-1596)	(6-2105)	(7-2740)	(6-2740)
- % ratio (text parts about polls / poll article)	61.10	63.32	60.24	57.62	59.28
Article focus:	% (n)	% (n)	% (n)	% (n)	% (n)
Dominant focus (60-100%)	54.63 (**124**)	56.80 (**192**)	52.97 (**375**)	45.35 (**668**)	49.49 (**1359**)
Important theme (30-59%)	6.17 (14)	5.92 (20)	8.50 (59)	18.26 (269)	13.23 (362)
Peripheral use (10-29%)	19.82 (45)	18.64 (63)	20.40 (144)	23.76 (350)	21.94 (602)
Poll mention (0-9%)	19.38 (44)	18.64 (63)	18.13 (128)	12.63 (186)	15.34 (421)
Articles with poll as dominant focus	(n=124)	(n=192)	(n=375)	(n=668)	(n=1359)
	% (n)	% (n)	% (n)	% (n)	% (n)
Article type: news report (Ref=interview, opinion article)	97.58 (121)	92.71 (178)	94.13 (353)	97.31 (650)	95.81 (1302)
Publication on front page	12.90 (12)	11.52 (22)	13.32 (49)	5.94 (39)	9.32 (122)
Number of unique polls reported	59	79	134	293	565
Ratio number of articles / number of unique polls	2.1	2.4	2.8	2.3	2.4

Note: The bold number of articles refer to those with polls as dominant focus that were content analyzed (cf. Table 2-4)

2.4.1.2. Centrality of polls in the news

In addition to the volume of poll news, the centrality of polls in the news between 2000 and 2006 was considered, based on the article focus, the article type, the number of poll publications placed on the front page of the newspapers and the number of unique polls reported.

2.4.1.2.a. Article focus

As a first indicator of the centrality of polls in the news, the focus of the articles with any reference to polls (n=2744) were classified into four categories according to their proportional text contribution to polls. For this, the classifications of Brettschneider (1997), as well as Smith and Verall (1985) were summarized into a more refined categorization that was used for coding.

presents an overview of this categorization. First of all, articles were categorized as 'dominant focus' if at least 60 percent of the article text was related to poll news. This percentage was chosen as the middle-road between Brettschneider's categorization of polls dominating if at least 70 percent of the text was about polls, and Smith and Verall's categorization of poll focus if more than 50 percent of the articles referred to polls. A second category of articles was 'important theme' if at least 30 but less than 60 percent of the article text was about polls. This was based on Brettschneider's categorization of important polls (31-69%) and Smith and Verall's classification of poll theme (10-50%). Finally, Brettschneider's categorization of peripheral reference to polls (0-30%) and Smith and Verall's classification of poll mention (0-9%) were used as the basis for respectively a third category 'peripheral use' (10-29%) and a fourth category 'poll mention' (0-9%).

From Table 2-8, it can be learned that about half of the newspaper articles (49.5%) used polls as the dominant focus, which means that at least 60 percent of the article text referred to polls. Moreover, it was found (not shown) that a lot of the articles (n=1308, or 47.67% of the total number of poll articles) not only used polls as the dominant focus but were entirely contributed to polls with their results and interpretations. Thus, if polls were used in the news, they were mostly the dominant topic of the article and were less frequently used as a mere illustration or argument in a news story about another issue. In general, Table 2-8 shows that the percentage of articles with polls as a dominant focus or an important theme, on the one hand, and the percentage of articles that marginally used or merely referred to polls, on the other hand, did not change much in the years between

2000 and 2006. However, in 2006, the volume of articles in the middle categories, and especially in the category 'important theme', was significantly larger, relative to the other years (Chi^2 (df=9)=94.66; p<.0001). The overall finding that poll articles substantially dealt with opinion polls is in line with previous research in other countries, such as Brettschneider's (1997, pp. 252-253) study of newspaper coverage in Germany and the study of television coverage in Australia by Smith and Verall (1985, p. 65).

Table 2-9: Coding decision about centrality of polls in articles based on the classifications of Brettschneider (1997), and Smith & Verall (1985)

Brettschneider (1997)	Smith & Verall (1985)	Coding decision
≥ 70% Dominating	> 50% Poll focus	≥ 60% Dominant focus
31-69% Important	10-50% Poll theme	30-59% Important theme
0-30% Peripheral	0-9% Poll mention	10-29% Peripheral use
		0-9% Poll mention

2.4.1.2.b. Article type

The articles that used polls as the dominant focus (n=1359) were further content analyzed, because a substantial amount of the article text (at least 60% of the words) was spent to news about opinion polls. First of all, the type of newspaper article that dominantly focused on polls was registered as an additional indicator of the centrality of polls in the news. The article type was coded as a news report, an interview or an opinion article. Apart from general news reports, interviews can use polls as an unspecified point of reference (Brettschneider, 1997, p. 262) and opinion articles, both from journalists and external sources, can discuss polls in a more 'serious' way. Therefore, the use of opinion polls in different types of newspaper articles, besides general news reports, might give an indication that polls are more important to the media than simply disseminating information (Suhonen, 2001, p. 317). Table 2-8 shows that between 2000 and 2006, as much as 96 percent of the poll-dominant articles were news reports about opinion polls. Although a significant difference between the years was observed (Chi^2 (df=3)=11.91; p=0.0077), it did not indicate an over-time increase. Instead, it seems that in the years in which local elections were held (2000 and 2006), the share of news reports was higher than in the other years, which was the lowest in the non-electoral year of 2002. Overall, it was found that only a very small percentage of interviews and opinion articles dominantly focused on polls. However, it might be suggested that a larger number of those articles that did not dominantly focus on opinion polls (not further content analyzed) would have been classified as interviews or opinion articles, because in these articles, polls could be more frequently only mentioned or used peripherally by the journalists.

2.4.1.2.c. Poll publications on the front page

Furthermore, it was studied how many of the poll-dominant articles (n=1359) appeared on the front page, because a placement on the cover of a newspaper can be considered as an indication of the importance that media attribute to that news (Brettschneider, 1997; Suhonen, 2001; Andersen, 2000). To this end, the page number of the article was registered and subsequently dichotomized, based on whether or not the article was placed on the front page. From Table 2-8, it can be learned that the average number of poll-dominant articles published on the front page was lower in 2006 (6%) than in the previous years (when it ranged between 12 and 13%), which was statistically significant (Chi^2 (df=3)=18.36; p=0.0004). The overall observation that 9 percent of the poll-dominant articles were placed on the front page of the Flemish newspapers was similar to Suhonen's observation (2001) that 9 percent of the poll news was considered important to have a news headline on the front page of the Finnish newspapers. Brettschneider (1997, p. 253), on the other hand, found a higher percentage, namely that 25 percent of the German poll reports were placed on the first page, but he focused on pre-electoral news only.

Finally, it should be noted that the page range at which poll articles appeared in the Flemish newspapers has increased over time: in 2000, poll articles were found until page 21, in 2002 until page 47, in 2004 until page 76 and in 2006 until 96. This is another indication that the newspapers have introduced more supplements over time (De Bens & Raeymaeckers, 2007), though as aforementioned, the large majority of the poll articles appeared on the first twenty pages.

2.4.1.2.d. Number of unique polls reported

To have a final indication of the centrality of opinion polls in the Flemish newspaper articles, it was examined to what degree polls 'made it on the media agenda', based on their visibility in the news. From polls that are mentioned only once in one newspaper it can be argued that they did not make it on the media agenda as they have a low visibility in the overall news. However, from opinion polls that are mentioned more than once, by different newspapers, over a longer period of time, it can be said that they were put more prominently on the 'media agenda' because of their high visibility in the news (Suhonen, 2001). To study this visibility of polls in the news, the number of *unique* polls on which the articles focused was registered, based on information about the poll's characteristics disclosed (e.g. name of poll, poll subject, geographical poll range, pollster, poll timing) in the poll-dominant articles (n=1359). Apart from focusing on a specific poll, it was also

possible that an article focused on polls in general, without referring to a specific poll. However, this was only found in a limited number of poll-dominant articles (2%: 0 articles in 2000; 1 in 2002; 10 in 2004 and 17 articles in 2006). Accordingly, most articles focused on specific opinion polls. Table 2-8 shows that in 2000, 59 unique polls were focused on in 124 articles; in 2002, 79 polls were reported in 192 articles; in 2004, 134 polls were reported in 375 articles; and in 2006, 293 polls were focused on in 668 articles. Overall, about two articles (2.4) were published per unique opinion poll.

To have a more detailed indication of the visibility of these unique polls in the newspaper articles, the number of articles that dominantly focused on each of them was further inspected. This further inspection revealed that the majority of the unique polls (71%) were reported in only one article, and hence by only one newspaper selected. More specifically, in 2000, 43 polls (73% of the unique polls reported in that year) were mentioned in only one newspaper article, while this was 51 polls (65%) in 2002, 84 polls (63%) in 2004, and 223 polls (76%) in 2006. This finding supports Suhonen's (2001) observation that most opinion polls do not really make it on 'the media agenda' because of their low visibility in the news (Suhonen, 2001, p. 316). Subsequently, for each year under study, the opinion poll that was most visible in the Flemish newspapers is presented, with the number of articles that dominantly focused on this poll. In 2000, the most visible poll was a local election poll in Antwerp, commissioned by the newspaper *Gazet van Antwerpen*, which was reported in eight poll-dominant articles, during seven days, in three newspapers; in 2002, the most visible poll was a regional election poll in Flanders, commissioned by the public television broadcaster *VRT*, the newspaper *De Standaard* and the academic *University of Antwerp*, which was focused on in 27 articles, during eight days, in all six newspapers studied; in 2004, the most visible poll was a regional election poll in Flanders, commissioned by the public television broadcaster *VRT* and the newspaper *De Standaard*, which was mentioned in 37 articles, during five days, in all six newspapers studied. Finally, in 2006, the most visible poll consisted of different local polls that explored both electoral and general (but politically-relevant) topics in communities labeled 'The Largest Neighbourhood Survey', commissioned by the newspaper *Het Nieuwsblad*, which was focused on in 61 articles, during more than one month (36 days), in four of the newspapers studied. Based on these examples, it seems that in each year the number of articles that focused on a particular poll has increased (namely from 8 articles focusing on the same poll in 2000, to 61 articles in 2006). This indicates that particular polls were very visible in the Flemish newspapers, while a lot of other polls were only mentioned once. What the most visible opinion polls in the Flemish

newspapers have in common is that they were all commissioned by news media and they all focused on electoral subjects, though the 'Largest Neighbourhood Survey' in 2006 also explored more general political topics. Both the media-involvement in the polls published and the political relevance of the poll subjects are considered in more detail in later sections. Now, it is focused on potential differences in the general media-attention to polls between the newspapers under study.

2.4.1.3. Differences between newspapers

Given the typical characteristics of different types of newspapers, it might be expected that the general media attention to polls would differ between quality and popular newspapers. For example, a general supposition may be that popular newspapers would use more frequently all kinds of poll results in their news publications, while quality newspapers would use only a limited selection of opinion polls in their news. Regarding the absolute volume of poll news, Table 2-10 shows that for almost all of the six newspapers under consideration (with the exception of '*De Tijd'*), and hence, for both quality and popular newspapers, the number of articles with any reference to polls publicized between 2000 and 2006 increased over-time. The largest average growth in this absolute number of poll articles was found for both the quality paper *De Standaard* and the more popular paper *Het Nieuwsblad*, which are edited by the same press house *Corelio*. This could partly be explained because of their organization of 'The Largest Neighbourhood Survey' in 2006 for which people of almost all the local communities in Flanders (307) were polled about their satisfaction with the local policy and the governing mayor before the communal elections. Subsequently, a lot of these local poll results were published as individual news articles. This might be an initial indication that the commissioning of opinion polls by a press house can result in large numbers of articles published about the internally-commissioned opinion polls. Hence, it seems that for the organization of such large opinion polls, the commercial relationships of newspapers with the press house overshadow differences that can be expected between quality and popular newspapers regarding the volume of poll news. Furthermore, it should be noted that the absolute number of poll articles in 2000 was more similar between the different newspaper titles compared with 2006 in which larger differences between the titles can be observed. These differences between the newspapers over time should be remembered in the presentation of the results.

Table 2-10: The percentage (number) of newspaper articles with any reference to polls per newspaper title and type, by year

	2000 (n=227)	2002 (n=338)	2004 (n=706)	2006 (n=1473)
Newspaper (*Type*)	% (n)	% (n)	% (n)	% (n)
Quality				
De Standaard	12.78 (29)	23.08 (78)	27.20 (192)	26.88 (396)
De Morgen	14.54 (33)	17.75 (60)	17.28 (122)	8.76 (129)
De Tijd	18.50 (42)	12.13 (41)	15.86 (112)	4.14 (61)
Popular				
Gazet van Antwerpen	21.59 (49)	13.31 (45)	9.49 (67)	10.93 (161)
Het Laatste Nieuws	19.82 (45)	15.98 (54)	15.72 (111)	18.74 (276)
Het Nieuwsblad	12.78 (29)	17.75 (60)	14.45 (102)	30.55 (450)

Note: Significance test of newspaper type (quality vs. popular) by year: Chi^2 (df=3)=86.10; p<.0001

Regarding the centrality of polls in the news, it was observed that the popular newspapers significantly (Chi^2 (df=3)=38.91; p<.0001) more often used polls as the dominant focus (55%) than the quality newspapers (44%). However, no significant differences were found regarding the placement of poll-dominant articles on the front page between the quality and popular newspapers (Chi^2 (df=1)=1.36; p=0.2428).

2.4.1.4. Summary

This section addressed the first research question (RQ1) whether the Flemish newspapers have followed the worldwide increasing trends in the media-attention to poll news during recent years. Based on the absolute number of poll articles published, a huge increase in the volume of poll news was observed between 2000 and 2006, though it could not be controlled for the relative size of the newspapers. However, the proportional number of words within these articles referring to polls remained quite stable during the time period studied. Regarding the centrality of polls in the news, it was found that if a poll was used in an article, it was dominantly focused on (at least 60 percent of the article text was contributed to poll news), though a limited number of them were placed on the front page of the newspaper. Furthermore, it was found that most of the unique polls did not make it on the media-agenda because of their low visibility in the news, whereas some particular polls received a high degree of attention from different newspapers. Finally, the expected differences in media-attention to poll news between quality and popular newspapers could not be clearly observed, though in 2006 more differences in the absolute number of published polls between the different newspaper titles could be observed than in 2000.

2.4.2. Close media-involvement in the polls published

In addition to the first question about media-attention to polls, the second research question (RQ2) addressed is to what degree news media are involved in the polls published, whether as commissioners (sponsoring the polls) or pollsters (conducting the polls). This would provide essential information, because by being involved in the polls published, media can actively manufacture news based on these polls (Suhonen, 2001, p. 317). Indeed, given the criticisms about a possible news-making feedback loop for poll news (cf. Crespi, 1980; Kovach, 1980), it is important to examine the media-involvement in the polls published more closely. Therefore, it is first studied whether the media are involved with the polls published by commissioning or conducting the polls based on the disclosed poll-source, after which differences between the years are tested to study a potential increase in the media-involvement over time and the centrality of media-polls is explored by the number of media-polls published on the front page.

2.4.2.1. Commissioning or conducting polls

To address the issue of media-involvement in the polls published as news, it was first examined whether the media were involved as those who commissioned or conducted the opinion polls. For this, information that was disclosed in the poll-dominant articles (n=1359) about the poll-source was registered. In 950 of these articles (70%), some reference to a poll-source was explicitly disclosed. Following the disclosure standards of most survey research organizations (cf. Subsection 2.2.3.2.b.; Table 2-3), a further distinction was made between references that specifically mentioned the name of the poll commissioner who sponsored the poll and those references that specifically mentioned the name of the polling institute which conducted the poll. However, articles could also refer more generally to the name of a pollster, without specifically mentioning whether they commissioned or conducted the poll (e.g. a specific reference would be: '*a poll commissioned by the television channel VRT, which was conducted by the polling institute TNS Media*', while a more general reference would be: '*a poll of VRT*'). Results are presented in Table 2-11. It was observed that in 26 percent (n=247) of the articles with a reference to a poll-source, the name of the commissioner was specifically disclosed, while in 22 percent (n=212), the name of the polling institute was specifically mentioned. Both the name of the commissioner and the polling institute were specifically disclosed in 18 percent (n=175) of the articles with a reference to a poll source. By contrast, from the articles that referred to a poll-source, as much as 70 percent (n=662)

contained a more general reference, thus without a clear distinction between commissioning and/or conducting the poll.

As can be seen from Table 2-11, the poll-source was further classified as: 1) exclusively media; 2) media in cooperation with another type of source; 3) political party; 4) organization (e.g. NGO); 5) commercial research institute; 6) academic (e.g. university); 7) public authority (e.g. government, public service); 8) business (based on Suhonen, 2001, p. 318).

Table 2-11: Percentage (number) of articles that disclosed a reference to a poll-source (n=950) categorized by type of pollster

	Specific reference to:				General reference to:	
	Commissioning poll (n=247)		Conducting poll (n=212)		Pollster of poll (n=662)	
Disclosed poll-source	%	(n)	%	(n)	%	(n)
Exclusively media	63.16	(156)	0.47	(1)	56.95	(377)
Publishing newspaper	*31.98*	*(79)*	*0*	*(0)*	*9.97*	*(66)*
Similar press house	*3.64*	*(9)*	*0*	*(0)*	*6.80*	*(45)*
Other media	*27.53*	*(68)*	*0.47*	*(1)*	*40.18*	*(266)*
Media in cooperation with other type of source	3.64	(9)	0.94	(2)	1.81	(12)
Political party	5.26	(13)	0.47	(1)	2.27	(15)
Organization	10.93	(27)	1.42	(3)	11.78	(78)
Commercial research institute	0	(0)	76.90	(163)	5.74	(38)
Academic	0	(0)	18.40	(39)	2.72	(18)
Public authority	13.36	(33)	0.47	(1)	9.97	(66)
Business	3.64	(9)	0.94	(2)	8.76	(58)

Note: Specific references to those commissioning and conducting the poll could both be present in an article; this was the case for n=175

Table 2-11 shows that between 2000 and 2006 the most frequently disclosed commissioners of polls were the media (63%), followed by a public authority (13%), organizations (11%) and political parties (5%). In contrast, the most frequently disclosed institutes that conducted the polls were commercial research agencies (77%) and academic sources (18%), whereas the media were almost never disclosed as those who conducted the polls. If it was not specifically distinguished between the commissioners who sponsored the poll and the polling institute which conducted the poll, the media were still most frequently mentioned as poll-source (57%), but the disclosed pollsters were more diverse. These figures resemble those found by Suhonen (2001), who observed that Finnish news media mainly commissioned the polls reported, whereas commercial pollsters primarily conducted them (Suhonen, 2001, p. 319).

In order to obtain a more detailed indication of the degree to which media were involved in the polls published, the 'exclusively media'-category in Table 2-11 was further classified into a poll from the publishing newspaper itself, from a newspaper of the same press house or from other media (e.g. other newspapers, television). As can be seen from Table 2-11, both the publishing newspaper and other media were frequently disclosed as commissioners (32% and 28% respectively) or pollsters (10% and 40%). In further analyses, the category of a newspaper from the similar press house was added to the category of the publishing newspaper itself, because of very small numbers of articles in the former category. In this way, a dichotomy was created between polls from the 'own' media (in terms of from the same press house) and polls from other, commercially competing media.

2.4.2.2. Differences between years

In order to study whether the degree of media-involvement in the polls published increased over time, differences in the disclosed poll-source were tested between the years. Because articles could contain both a reference to those who commissioned the poll and who conducted the poll, a dummy-variable of media-involvement was created at the article level, namely whether a media-source was disclosed as the commissioner, polling institute or pollster (value of 1 for dummy-variable); whether they were explicitly not disclosed as involved in the poll published (value of 0 for dummy-variable); or whether no information about a pollster was disclosed (missing value for dummy-variable). Based on this dummy-variable, it was found that media were involved with the polls published in 59 percent of the articles that disclosed a reference to a pollster in 2000, 48 percent in 2002, 57 percent in 2004 and 64 percent of the poll articles in 2006. Thus, in the most recent year under study (2006), the media were significantly (Chi^2 (df=3)=12.94; p=0.0048) more often disclosed as involved with the polls published. But in the non-electoral year 2002, the media were less often disclosed as involved with the polls published. Therefore, although the percentages significantly differed between the years, they did not clearly indicate an over-time increase of the media-involvement in the polls published. Regarding the further categorization of the 'media'-category into newspapers from the own press house relative to other media (dichotomous variable, cf. previous section), very small number of articles were observed within the sub-classes when tested per year, so that this could not properly be further analyzed.

2.4.2.3. Centrality of media-polls

It could be generally supposed that media-polls are attributed more significance by the Flemish newspapers than non-media polls. To have an indication of this centrality of media-polls in the Flemish newspapers, the number of these polls reported on the front page was examined more closely. As could be expected, articles about media-polls significantly (Chi^2 (df=1)=16.34; p<.0001) more often appeared on the front page of the newspaper (15%, n=81) than articles about polls from another source (6%, n=24). Further inspection revealed that significantly (Chi^2 (df=1)=7.49; p=0.0062) more poll articles appeared on the front page if the publishing newspaper (or a newspaper of the same press house) was involved as pollster (20%, n=43) than if another media organization was involved (12%, n=38). Although these findings are in line with general expectations, the small number of articles within the sub-classes should be noted.

2.4.2.4. Summary

This section addressed the second research question (RQ2) of whether media were frequently and increasingly involved in the polls published, as commissioners (sponsors) or pollsters (conducting the polling fieldwork). Although no over-time increase was observed regarding the media-involvement in the polls published between 2000 and 2006, it was found that media were the most frequently disclosed commissioners of the polls that were dominantly focused on in the newspaper articles. Thus, media most frequently sponsored the polls, rather than conducted them methodologically. But, by sponsoring opinion polls of which the results are used as news, the media can decide upon the poll subject (e.g. topical issue), the group of respondents polled (e.g. the 'Flemish'), the poll timing (e.g. before elections) and other methodological aspects (e.g. poll mode) which may influence the poll results obtained, and hence may affect the representation of mass opinion that is disseminated to the general public (Suhonen, 2001, p. 319). Additionally, in line with general expectations, it was found that media-polls and especially those polls from the publishing newspaper (or another newspaper from the same press-house) were more often placed on the front page of the newspapers, and hence attributed more significance in the news, than polls from other sources.

2.4.3. Daily and timely poll news

Subsequent to addressing the two research questions about media-attention to polls (RQ1) and media-involvement in polls (RQ2), four specific expectations concerning the manufacturing of poll news are examined, based on presumed tensions between news

criteria and poll characteristics (RQ3). A first expectation that is studied more closely is that poll news is daily and timely (RQ3a). This news criterion of frequency suggests that daily publishing newspapers can use new poll results on a daily basis in their news, which may imply that they will especially rely on online polling methods, because these modes can deliver very quickly new poll results to be reported upon. Furthermore, the news criterion of frequency also suggests that polls related to current affairs are considered most newsworthy to publish as news. Because the importance of timely news could manifest itself most clearly during elections, it is particularly focused on differences in the newsworthiness of polls during political elections relative to non-electoral periods. To study the role of the newspapers in manufacturing daily and timely poll news, respectively the daily average of poll publications, the length of the poll fieldwork, the use of online polling methods and the focus on electoral news are considered.

2.4.3.1. Daily average

An initial expectation regarding the news criterion of frequency studied is whether the Flemish daily newspapers indeed used opinion polls on a daily basis. For this, the average number of poll articles published *per day* was estimated by dividing the yearly number of articles with a reference to polls by the number of publication days of the newspapers in the respective years[19]. Overall, an average of two poll articles per day was found, which increased between 2000 and 2006. More specifically, the outcomes showed that in 2000, on average, less than one poll article was published per day (M_{2000}=0.75), while in the other years more than one poll article was published per day (M_{2002}=1.12; M_{2004}=2.32; M_{2006}=4.86). Especially in 2006, on average almost five poll articles were published per day. These rising averages suggest that the Flemish newspapers have selected and created poll news increasingly on a daily basis. But, it should be noted that these averages do not take into account the six newspapers

[19] Most of the studied newspapers published on six days, from Monday until Saturday, with the exception of *De Tijd*, which generally publishes between Tuesday and Saturday, but published additionally a Monday paper between November 2003 and April 2006, and *Het Nieuwsblad*, which has published an additional Sunday paper since 2003. However, as the data selection comprised only 4 poll articles published on a Sunday in *Het Nieuwsblad*, the following calculation was considered appropriate in order to get a daily average of poll articles published in the newspapers between 2000 and 2006: the number of Sundays in a year (on average 52) and the number of official Holidays (10: New Year's Day, Easter, Labour Day, Whitsuntide, Ascension Day, National Holiday, Our Lady of the Assumption, All Saints' Day, Armistice Day and Christmas Day) were subtracted from the total number of days in a year (365 days in 2002 and 2006; 366 days in the leap years 2000 and 2004), to obtain an overall estimate of the number of publication days, though it should be noted that it was not taken into account whether the Holidays fell on a weekday or in a weekend within the respective years. Therefore, it should be considered an estimate.

studied. Taking them into consideration decreases the averages of poll publications per newspaper per year (to respectively M_{2000}=0.12; M_{2002}=0.19; M_{2004}=0.39; M_{2006}=0.81).

2.4.3.2. Short and recent poll fieldwork

Because the news criterion of frequency recommends to use daily poll results that are timely, this may imply that media prefer a short and recent poll fieldwork, or respectively a short polling fieldwork and a short period between the fieldwork and the publication of the poll news. To examine this, information that was disclosed in the poll-dominant articles about the exact fieldwork dates of the polls published (n=125), was used to obtain an indication of the duration of the fieldwork periods disclosed, as well as the number of days between the last fieldwork day and the publication of the poll-dominant article. First, it was observed that the average duration of the fieldwork period disclosed was 15 days, with a range between some hours (e.g. electoral poll commissioned by the Belgian press agency *Belga*, which was conducted with the Internet-panel of *iVOX*, in May 2006) to 123 days (which was from a general poll commissioned by the union *ACW* published in March 2000). Furthermore, if the articles about future polls were not taken into account, the poll-dominant articles were published, on average, 17 days after a poll was conducted. This ranged between a poll publication one day after data-collection (e.g. electoral Internet-panel poll 'De Stemmenkampioen' commissioned by the newspaper *Het Laatste Nieuws* in 2004 and 2006) to 76 days after polling (e.g. the media-commissioned 'Largest Neighbourhood Survey' was conducted face-to-face, by telephone and through the Internet, between May and the beginning of July 2006, while the poll articles about it were published in September and October of that year, which was closer to Election day of that year on October 10). Overall, the average period between the end of the fieldwork and the publication of the poll article was quite long, compared with for example Smith and Verall (1985) who observed that the average time lag between the start of interviewing and the poll publication on Australian television was only eight days (Smith & Verall, 1985, p. 70).

However, the observation that some polls were conducted within a day and published a day later indicates the rapidity with which poll results can be delivered to be reported upon by the newspapers. Further inspection revealed that the short fieldwork period of only one day was mostly observed in 2004 and 2006, and that the short period of one day between the end of the fieldwork and the news publication was merely found in 2006. Thus, the shortening of the fieldwork period and the rapidity with which the poll news was published seems to be a rather recent development. Because the fieldwork period is

closely related to the poll method used, it is next focused on the degree to which the Flemish newspapers relied on online polling modes to deliver quickly new poll results.

2.4.3.3. Online poll mode

Due to a tension between the daily news rhythm and the time needed to perform methodologically high-quality opinion research, news media may prefer those poll methods that can produce very quickly, even every day, new poll results. In particular, online polls could match this daily news rhythm. Therefore, first the use of online polls in the news is considered, after which the media-involvement in these polls is presented.

2.4.3.3.a. Online unique polls

To study the use of online polls in the news, information about the poll method, whether it was explicitly disclosed in the article or could be derived from other disclosed poll characteristics (e.g. poll name) was used to register whether the unique polls (n=565; cf. Subsection 2.4.1.2.d.) were conducted by an online mode. Using dummy variables, the unique polls were divided in online polls (value of 1 for dummy variable), offline polls (value of 0 for dummy variable) and unknown (missing value for dummy variable). If a mixed polling method was used in which one of the modes was online, it was counted as the first category, because the mode was partially Web-based.

It should be noted that from the 565 unique polls, the poll mode could be established in 253 (or 45% of the) cases, based on information in the articles. From these known poll modes, 64 percent was classified as an online poll. Because it can be argued that the use of online polls in the news is time-sensitive, due to the general advent and rise of online opinion research during recent years, the percentage of online unique polls was considered separately by year, despite the small number of cases obtained: in 2000, 16 percent of the modes (4 of the 25 known poll-modes) were online, which increased in 2002 to 35 percent (8 of the 23 known poll-modes), in 2004 to 47 percent (21 of the 45 known poll-modes) and in 2006 to as much as 80 percent (128 of the 160 known poll-modes). Although the numbers of unique polls from which the mode could be registered were not so large when sub-grouped by year, these figures give an indication that the use of online poll results in the Flemish newspapers increased between 2000 and 2006. Next, it is examined to what degree the media were involved in these online polls.

2.4.3.3.b. Media-involvement in online polls

In addition to the use of online polls in the news, the involvement of the media in these online polls, by commissioning or conducting them, was considered. To this end, the poll-source of the unique online polls was registered as media if they were involved (as sponsors or pollsters) or non-media if they were not involved in the polling process. Overall, in 55 percent of the online unique polls used as news between 2000 and 2006, media were involved as commissioners or pollsters. Due to the time-sensitivity of the general use of online opinion measurement techniques, this percentage was sub-grouped by year, though the small number within the sub-classes should be stressed. It was observed that the media were involved in none of the four online polls in 2000 and in only two out of eight online polls in 2002; but this increased to 76 percent (16 out of 21 online polls) in 2004 and to 94 percent (120 out of 128 online polls) in 2006. Although it should be noted that one particular online panel poll, namely 'De Stemmenkampioen' (the Voting Champion), commissioned by the newspaper *Het Laatste Nieuws*, accounted for much of the percentage of online polls in which the media were involved in 2004 and 2006 (respectively 62 and 86% of the known online polls), it indicates the increasing interest of the news media in opinion polls that can deliver new poll results within a very short time span, even within one day, and with limited costs.

2.4.3.4. Timely poll news: focus on elections

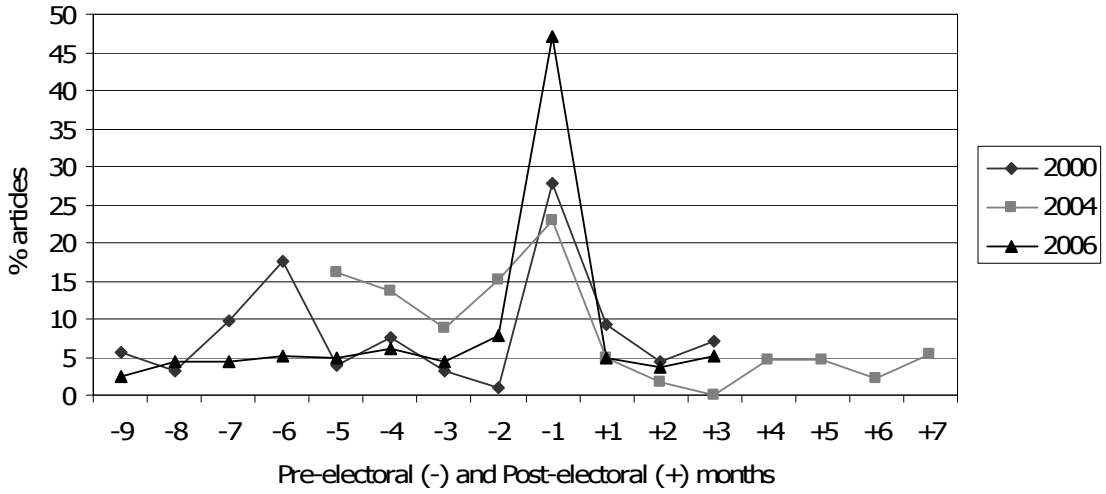
Apart from the focus on daily poll news, the news criterion of frequency suggests to use timely poll news, related to topical issues. Because this could manifest itself especially during times of political elections, it is particularly focused on the difference in newsworthiness that is attributed to electoral poll news relative to more general poll news. Therefore, the publication date of poll publications is considered, as well as the type of polls (based on the poll subject and geographical poll range).

2.4.3.4.a. Poll publications before elections

First of all, the publication date was taken into consideration to study whether poll articles were equally publicized throughout the year or were concentrated in times of political elections. This would provide an initial indication that the newsworthiness of polls differs according to particular events, such as elections. It was observed that in 2002, when no elections were held in Flanders, several months showed an increase in the absolute number of poll articles published, such as March, June, September and November. By examining more closely the specific polls that were conducted during these months, it was found that the increase during March, June and September can be primarily

explained by the three-monthly organization of national electoral polls by the French-speaking newspaper *La Libre Belgique*, of which the results were widely published in the Flemish news media after their release. The increase of poll publications in November 2002, on the other hand, was mainly due to the release of a Flemish electoral poll jointly commissioned by the newspaper *De Standaard* and the public television channel *VRT*, which received extensive media-coverage. These examples indicate that the data selection comprised some opinion polls that were given particularly high visibility in the news (cf. Subsection 2.4.1.2.d.).

Figure 2-2: Percentage of paper articles with any reference to polls per month (pre-electoral and post-electoral) for the electoral years (n=2406)



For the electoral years under consideration, Figure 2-2 depicts the percentage of poll articles published during pre-electoral and post-electoral months. For this, the exact election dates in the years 2000, 2004 and 2006 were considered[20], while the electoral-free year of 2002 was not further categorized into pre- and post-electoral months. Although not all of the poll articles publicized during electoral years were related to political elections, it is shown in Figure 2-2 that a substantial amount of the poll articles was publicized in the last month(s) before an election. Especially in 2006, a year in which local elections were held in Flanders, the number of poll articles was largely concentrated in the last month before the actual election date, compared with the rest of that year, in which far less media attention to polls could be observed. Similarly, in 2000, when the

[20] The following exact election dates in Flanders were used as the dividing line between pre- and post-electoral months: 10/10/2000 local elections (communities and provinces); 13/06/2004 European and regional elections; 10/10/2006 local elections (communities and provinces). Before, after and in between the years studied, elections were held in June 1999 and May 2003. These elections were at least five months away from the beginning and end months of the years studied, and hence could be considered of little influence on the data collected.

same kind of local elections were organized, a large number of articles were publicized in the last pre-electoral month. However, also in the sixth month before the Election date, an increase in the number of poll articles could be observed. In 2004, the percentage of poll articles remained high during a longer period (5 months) before the regional and European elections. But the overall pattern that can be observed is that the volume of poll articles peaked in the pre-electoral month(s) and soon dropped after Election Day. This confirms previous research, such as Brettschneider's (1997, p. 253) observation in Germany that the closer to Election Day, the more pre-electoral poll reports were published.

Whereas this finding was based on the number of articles with any reference to polls (n=2744), next the publication date of the poll-dominant articles (n=1359) is further examined. Due to a smaller number of articles that dominantly focused on polls than the total number of articles with any reference to polls, a broader time categorization was used: rather than per month, the last three months before an election were classified as a pre-electoral campaign period, and the other months as non-electoral months. Although in reality an actual campaign could have been longer or shorter, this three-month classification can be considered as a pre-electoral period in Flanders, during which media will increasingly refer to the approaching Election Day. Results are summarized in Table 2-12. This table shows that in the election years, 46 percent of the poll-dominant articles were published during the three last pre-electoral months. In other words, almost half of the poll-dominant articles in electoral years were published closely before an election. This confirms the 'peak' of poll publications before Election Day, shown in Figure 2-2.

Table 2-12: Summary of timely poll news: focus on elections by year, based on percentage (number) of newspaper articles with polls as dominant focus (n=1359)

	2000 (n=124)		2002 (n=192)		2004 (n=375)		2006 (n=668)		2000-2006 (n=1359)	
Articles with poll as dominant focus	%	(n)	%	(n)	%	(n)	%	(n)	%	(n)
Publication date: during 3 last pre-electoral months (Ref=non-electoral months)	37.90	(47)	-	-	48.80	(183)	46.40	(310)	46.27	(540)
Type of poll reported:										
- Poll subject										
Electoral	46.00	(57)	31.30	(60)	44.50	(167)	45.10	(301)	43.05	(585)
General	41.10	(51)	53.10	(102)	42.70	(158)	37.10	(248)	41.28	(561)
Combined (electoral & general)	12.90	(16)	15.60	(30)	12.80	(48)	17.80	(119)	15.67	(213)
- Geographical poll range										
Local	49.20	(61)	16.70	(32)	8.80	(33)	47.50	(317)	32.60	(443)
Regional	11.30	(14)	28.10	(54)	46.40	(174)	29.60	(198)	32.38	(440)
National	21.80	(27)	43.80	(84)	29.30	(110)	15.30	(102)	23.77	(323)
International	6.45	(8)	8.33	(16)	13.10	(49)	4.64	(31)	7.65	(104)
Unknown	11.30	(14)	3.13	(6)	2.40	(9)	2.99	(20)	3.61	(40)

2.4.3.4.b. Use of electoral polls

Thus, it seems that elections indeed generate a lot of poll news published in the Flemish newspapers. In order to obtain more information about what kind of opinion polls were selected to be used as news, the articles that dominantly focused on polls (n=1359) were categorized according to two poll characteristics[21], namely the poll subject and the geographical poll range. Firstly, the poll-dominant articles were categorized according to the poll subject, which could be 1) electoral, if voting intentions and/or the popularity of political candidates were polled, 2) general, if more general topics were polled, or 3) a combination of both. As can be seen from Table 2-12, between 2000 and 2006, 43 percent of the poll-dominant articles reported upon electoral polls. Only in 2002, a year without elections, significantly (Chi^2 (df=6)=21.30; 0.0016) more polls about a general issue (53%) were published. In line with these results, it was observed that in electoral years significantly (Chi^2 (df=2)=48.32; p<.0001) more electoral (49%) and polls with a combined electoral-general issue (21%) were published during the last three pre-electoral months, relative to the non-electoral months (41% and 11% respectively). By contrast, during these non-electoral months, polls about a general issue were more frequently published (48%) than during the last three pre-electoral months (29%).

These findings suggest that the media-selection of polls to publish as news is closely related to the newsworthiness of poll subjects at particular moments, such as elections. To explore this further, the 'political relevance' of the poll subjects was considered. It can be argued that articles about electoral and combined electoral-general poll issues were intrinsically political relevant, as the polls explored political support by voting intentions and popularity of political candidates (Suhonen, 2001, p. 319). For the articles about polls on a general issue, on the other hand, a broad political classification of the poll subject was used; if the poll explored political issues, such as political trust, policy satisfaction, the regional split-up of Belgium, or publicly debated issues, such as voting rights for migrants or the problem of the voting arrondissement Brussel-Halle-Vilvoorde, the general poll subject was coded as 'politically relevant'. Poll subjects coded as not political relevant were, for example, about sales and shopping, advertisement and brands, royalty, sports, leisure or polls related to Holidays such as Easter or Christmas. It could be observed that, overall 20 percent of the articles about polls on a general issue were concerned with a politically relevant poll subject. However, due to coding limitations, this figure should be seen as a suggestive indication of the political relevance of polls about a general issue,

[21] If more than one poll was reported in an article, the characteristics of the poll that was dominantly focused on within the article was substantially content analyzed.

rather than an absolute distinction between political and non-political subjects. But if this overall figure is added to the percentage of electoral polls (43%), it clearly shows that most of the poll-dominant articles published by the Flemish newspapers between 2000 and 2006 were related to political topics.

In addition to the poll subject, the geographical poll range was derived from general information in the article about the respondents polled. In this way, the poll range could be registered, even if no specific definition of the target population was disclosed (de Boer, 1995, p. 91). The following classification was used: local poll (city, community), regional poll (Flanders or Wallonia), national poll (Belgium, of which the results could be sub-grouped by region), international poll (but which included Belgian respondents) or unknown if the geographical poll range could not be derived from the poll article. From Table 2-12 it can be learned that the geographical range of the polls reported reflected the nature of the elections held in the respective years. In 2000 and 2006 when local elections were held, the number of local polls reported in the newspapers were significantly (Chi^2 (df=12)=281.15; p<.0001) higher (49% and 47% respectively) than in the other years (17% in 2002; 9% in 2004). By contrast, in 2004 when regional elections were organized, the number of regional polls was the highest (46%) compared with the other years (on average 23%). In the non-electoral year 2002, mostly national polls (44%) were reported upon. These findings support the use of electoral-related polls during election years.

2.4.3.4.c. Media-involvement in electoral polls

In order to examine to what degree media were involved in the electoral polls published, the poll subject of the poll-dominant articles (n=1359) was sub-grouped by the source of the poll (media involved or not). It was found that articles about media-polls were significantly (Chi^2 (df=2)=337.91; p<.0001) more often concerned with electoral polls (55%) and combined electoral-general polls (26%) than articles about polls from other sources (16% and 6% respectively); whereas articles about polls from these other sources were more frequently concerned about polls on a general issue (79%) than articles about media-polls (19%). But the articles about polls from the publishing media organization itself were significantly (Chi^2 (df=2)=15.22; p=0.0005) more often concerned with combined electoral-general polls (35%, n=74) than the articles about other media-polls (21%, n=70). Thus, media were more frequently involved in the news reports about electoral-related polls than other poll-sources.

2.4.3.5. Summary

Concerning the first set of expectations regarding the publishing of daily and timely poll news (RQ3a), it was observed that the daily average with which Flemish newspapers publish news based on opinion polls increased between 2000 and 2006. In the latter year, almost five poll articles were published per day, in six newspapers. Because of the news criterion of frequency it could be expected that the newspapers would rely on opinion polls of which the poll fieldwork would be short and recent, and of which the mode would deliver quickly new poll results, such as online polls. Indeed, it seems to be a quite recent development that the poll fieldwork occasionally existed of only one day (observed in 2004 and 2006), and that the publication date could be merely a day after the polling fieldwork (only observed in 2006). Regarding the use of online polls in the news, it was observed that the percentage of unique polls based on online poll methods increased between 2000 and 2006, and that the media were increasingly involved in these online polls, though the small numbers within these sub-classes should be stressed. These findings provide an initial, though suggestive, indication that the Flemish newspapers relied especially on those polls that can produce daily news.

Another aspect of selecting news based on the news criterion of frequency would be the publication of *timely* poll news, related to politically-relevant issues. As this may manifest itself most clearly in times of political elections, it was particularly focused on the newsworthiness attributed to electoral poll news, relative to more general poll news. It was indeed observed that especially during the last months before an election, polls were used as news, of which the subjects were mainly electoral and the geographical poll ranges resembled the type of elections, whereas during non-electoral years more polls about general issues were reported upon. Furthermore, media were significantly more often disclosed as involved in the electoral polls, than other sources. This indicates that the media can play a role in the selection of the kind of polls (electoral poll subject) to be conducted at what moment (during pre-electoral campaign months).

2.4.4. Unambiguous poll news

A second expectation with regard to the manufacturing of poll news studied is based on the presumed tension between the news criterion of unambiguity and the poll criterion of high-quality methodological opinion research (RQ3b). Because of this tension, it can be expected that journalists will present polls and their methodology in an unambiguous or straightforward way, rather than in an ambiguous way, such as emphasizing potential

methodological limitations. As indicators of unambiguous poll news are considered: a limited disclosure of methodological aspects and a limited expression of critical methodological judgments. Furthermore, a priori expected differences (cf. Subsection 2.2.4) in the methodological reporting of polls are examined between the years under consideration, between quality and popular newspapers, between electoral and general poll news, as well as differences according to the media-involvement in the polls published.

2.4.4.1. Limited methodological disclosure

In order to study the methodological disclosure in Flemish newspapers, the percentages of disclosed methodological aspects are presented, on the basis of which index measures of the disclosed aspects are calculated per article.

2.4.4.1.a. Percentages of disclosed methodological aspects

The methodological disclosure in Flemish poll articles was assessed on the basis of the methodological elements most frequently mentioned in the standards of minimal disclosure by different survey research organizations (ESOMAR/WAPOR, AAPOR, NCPP, CASRO, Febelmar; cf. Table 2-3)[22]. For this assessment of methodological disclosure, only the articles in which polls were used as the dominant focus (at least 60 percent of the article text referred to polls) were used (n=1359). More specifically, it was registered by dummy-variables for each methodological aspect whether or not it was disclosed in the poll-dominant article. An additional distinction was made between the disclosure of specific information, namely a/ name of polling institute, b/ name of sponsor, c/ definition of target population, d/ exact sample size, e/ description of sample procedure, f/ poll method, g/ exact fieldwork dates, h/ exact question wording; and the disclosure of less specific information for the following aspects: a-b/ some reference to a pollster, g/ some time indication, h/ some questionnaire information. For example, if no explicit distinction was made in the article between the name of the polling institute who conducted the poll and the name of the sponsor who commissioned the poll, it was possible that a less specific reference was made to the name of a pollster. Similarly, if no exact fieldwork dates were disclosed, some time indication of the fieldwork (e.g. a week or a month) could have been provided instead. Finally, if the exact question wordings were not mentioned, some general information about the questionnaire could have been published. Therefore, it was considered useful to pursue this difference between specific and general

[22] The methodological elements selected to study more closely had to be mentioned by at least 4 of the 5 standards of minimal disclosure presented in Table 2-3.

methodological disclosure (de Boer, 1995, pp. 90-93). Table 2-13 shows for each methodological element the percentage of articles in which it was explicitly mentioned.

From Table 2-13, it can be observed that some general reference to a pollster (with or without specifically distinguishing between the sponsor and polling institute) was the most frequently disclosed methodological aspect, as it was in 70 percent of the poll-dominant articles mentioned. Another aspect that was relatively frequent disclosed was the exact sample size, which was mentioned in 33 percent of the poll articles. The other methodological aspects were far less frequently disclosed, such as the poll method (12%), some time indication (whether or not with reference to the exact fieldwork dates; 17%) and a general reference to the poll questionnaire (16%). Finally, the methodological aspects that were the least frequently disclosed were information about the sample procedure (3%), the exact question wording (4%) and a definition of the target population (7%). To illustrate the disclosure of more technical poll information (not shown in table): just 6 percent of the poll articles mentioned the exact margin-of-error(s) and only 3 percent provided some information on the applied weighting procedures. These differences in the disclosure of the different methodological aspects are in line with findings of previous research about coverage of polls by newspapers and television in the Netherlands (de Boer, 1995), Germany (Brettschneider, 1997), Finland (Suhonen, 2001), Denmark (de Vreese & Semetko, 2002), the US (Miller et al., 1991), Australia (Smith & Verall, 1985) and Canada (Andersen, 2000).

It could be noted that the percentages in Table 2-13 did not take into account whether newspapers published on the same day an article which contained all necessary methodological information, besides other articles referring to this identical poll but without repeating the methodological information. Therefore, the degree of methodological disclosure was additionally examined per newspaper, per day, per poll. In other words, it was taken into account if a newspaper disclosed a methodological aspect in one of the poll articles on the same day about the same poll. The results are shown in Appendix A. As could be expected, the percentages of articles that disclosed methodological poll information per newspaper, per day, per poll were somewhat higher than the percentages of methodological disclosure in all poll-dominant articles, regardless of the newspaper, day and poll. However, the overall findings were quite similar, so that for reasons of consistency, in what follows the poll-dominant articles (n=1359) are further used as the units of analysis.

Table 2-13: Percentage of poll-dominant articles (number) per year disclosing methodological poll information (n=1359)

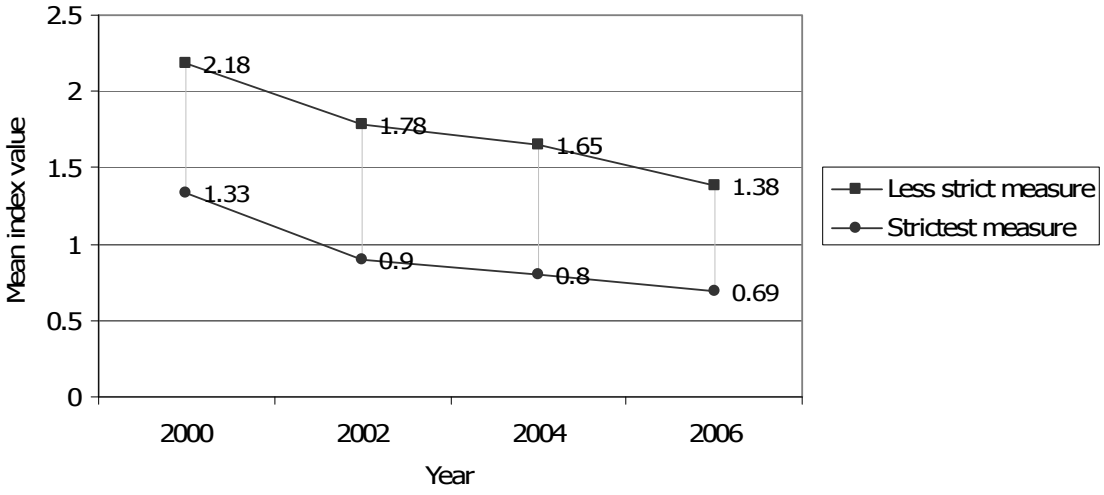
Disclosure of methodological poll information	2000 (n=124)		2002 (n=192)		2004 (n=375)		2006 (n=668)		2000-2006 (n=1359)	
Specific information	%	(n)	%	(n)	%	(n)	%	(n)	%	(n)
General poll information										
a) Name of polling institute	37.10	(46)	18.23	(35)	11.73	(44)	13.62	(91)	15.89	(216)
b) Name of sponsor	45.16	(56)	28.65	(55)	14.13	(53)	12.43	(83)	18.18	(247)
c) Target population	20.97	(26)	7.81	(15)	6.93	(26)	3.44	(23)	6.62	(90)
Sample information										
d) Exact sample size	42.74	(53)	41.15	(79)	34.13	(128)	29.19	(195)	33.48	(455)
e) Sample procedure	1.61	(2)	2.60	(5)	1.07	(4)	2.54	(17)	2.59	(28)
Data collection information										
f) Poll method	17.74	(22)	11.98	(23)	13.60	(51)	10.93	(73)	12.44	(169)
g) Exact fieldwork dates	15.32	(19)	6.77	(13)	9.60	(36)	8.53	(57)	9.20	(125)
h) Exact question wording	0	(0)	4.69	(9)	4.53	(17)	4.04	(27)	3.90	(53)
Less specific information	%	(n)	%	(n)	%	(n)	%	(n)	%	(n)
a/b) Pollster	88.71	(110)	85.42	(164)	73.07	(274)	60.18	(402)	69.90	(950)
g) Time indication	34.68	(43)	15.63	(30)	20.27	(76)	12.72	(85)	17.22	(234)
h) Questionnaire	11.29	(14)	13.02	(25)	15.73	(59)	18.56	(124)	16.34	(222)

Note: The numbers for the less specific information also include those of the specific information

2.4.4.1.b. Index of methodological disclosure

Based on the dummy-variables of disclosed methodological information in the poll-dominant articles (cf. Table 2-13; n=1359), an index was calculated of the number of aspects explicitly mentioned per article, in order to address the question how much methodological aspects of the disclosure standards were mentioned within the articles (Brettschneider, 1997, p. 261). The index distinguished between a strict measure based on the specific information in Table 2-13 (a-h) and a less strict measure that took into account the less specific information for certain elements (a-b, g, h). These measures were 0 if none of the methodological elements were mentioned in an article and they reached the maximum value of 7[23] if all the elements were provided in an article. These methodological index measures were subsequently averaged per year of publication and shown in Figure 2-3.

Figure 2-3: Mean index value of the number of disclosed methodological elements per year, with a distinction between a strict and a less strict measure (n=1359)



Since the index measures of the number of disclosed methodological elements per article could reach a maximum value of 7, the mean index values were quite low in the four years studied, namely between 0.69 and 2.18 disclosed aspects, with the strictest measure being consistently lower than the less strict measure. These averages are very low, compared with a study of German newspaper reports about pre-electoral polls which found an average of 4.38 aspects of the AAPOR-standard disclosed, which ranged from 0 (no information disclosed) to 8 (all AAPOR-information disclosed). Although this index focused only on pre-electoral polls and took into account all general references to

[23] In the calculation of the strictest index value, both elements a and b had to be disclosed in the article to be counted as 1 so that the maximal value of both measures is equal to 7.

methodological information, it is still higher than the less specific measure shown in Figure 2-3 for Flemish newspapers. The over-time (declining) trend in the disclosure of methodological information is further considered as from Subsection 2.4.4.4 for differences between years, newspapers, types of poll news and according to media-involvement.

2.4.4.2. Limited expression of methodological judgments

In addition to the (limited) number of methodological poll aspects disclosed in poll-dominant articles, the expression of evaluative methodological judgments within the articles was studied as a further examination of how the Flemish newspapers report upon the poll's methodology (Smith & Verall, 1985, p. 73; Brettschneider, 1997, p. 249). Whether the poll's reliability or unreliability is stressed in an article may give the public a different idea of how to perceive a certain poll and give meaning to its results (Suhonen, 2001; Andersen, 2000; Paletz et al., 1980; de Boer, 1995). It was observed that between 2000 and 2006, about 4 percent (n=53) of the poll-dominant articles consisted entirely of evaluating a poll's methodology. But apart from these poll-'criticism' articles, evaluative judgments could occur in all poll-dominant articles. These poll judgments were most frequently expressed in one of the following four ways, which are illustrated by examples from the articles. Firstly, a poll could be depicted as very (un)reliable without further details:

> « *Volgens de CVP mist de telefonische enquête elke geloofwaardigheid.* » (2000) [Translation: According to the CVP the survey by telephone misses credibility]

Secondly, poll results could be reported with reservation (e.g. taken with 'a grain of salt'):

> « *Uit vorige verkiezingsresultaten weten we dat we die peilingen met een flinke korrel zout moeten nemen.* » (2002) [Translation: From previous election results we know that we need to take these polls with a grain of salt]

Thirdly, one or more specific methodological element(s) could be used as evidence for the (un)reliability of a poll, such as poor representativeness of the poll results, large non-response rate etc.:

> « *Er werden slechts 600 personen ondervraagd. De betrouwbaarheid van de peiling is dus beperkt.* » (2006) [Translation: Only 600 persons were surveyed. Thus, the reliability of the poll is limited]

Finally, it was occasionally found that while some methodological deficiencies of the poll were mentioned, it was stated that trends could nevertheless be derived from the results.

> « *Dat de ondervraagden niet representatief zijn, betekent niet dat de resultaten onbruikbaar zijn. Ze leren iets over eventuele verschuivingen in de campagne, bijvoorbeeld door bepaalde gebeurtenissen. Ze laten ook toe steden onderling te vergelijken.* » (2006)
> [Translation: That the respondents are not representative, does not mean that the results are useless. They learn something about possible shifts in the campaign, for example because of particular events. They also enable to compare cities amongst each other]

To study the use of these methodological poll judgments more closely, first, the number of articles containing one or more methodological judgments was considered as an indication of how critical media use poll results in their news reports. For this, all evaluative statements about representativeness, validity and reliability of polls were registered, regardless of whether they explicitly referred to specific methodological aspects or were more general and unsubstantiated (de Boer, 1995, p. 93). Subsequently, the evaluative direction or tendency of these statements was classified, namely accepting or rejecting polls, because it may contribute to a particular representation of opinion polls in the news (de Boer, 1995, p. 94; Smith & Verall, 1985, pp. 74-75). Following Brettschneider (1997), this direction was coded on a five-point scale from a very negative (unreliable) to a very positive (reliable) evaluation of polls with a neutral or balanced middle point. Additionally, the source or originator of the evaluative statements was registered as journalists, politicians, pollsters, academics, or others (based on Brettschneider, 1997, p. 255). It should be noted that an article could contain more than one judgment. For this reason, the direction was determined per judgment and subsequently averaged at the article level. However, the source was determined per judgment, but could not be averaged at the article level. Instead, dummy-variables were used to indicate whether a particular source was present in an article or not. Therefore, Table 2-14 makes a distinction between the percentage of poll dominant articles (n=1359) and the percentage of judgments (n=520). Moreover, the subcategories of the variables number and direction were summed to 100 percent, whereas the variable source was measured by dummy-variables.

As can be seen from Table 2-14, a large percentage of poll articles (69%) did not contain any evaluative statement about the poll methodology. However, the finding that 31 percent of the articles contained at least one evaluative statement about polls was

somewhat higher than Brettschneider's (1997, p. 255) finding that 23 percent of the pre-electoral poll reports published between 1980 and 1994 in German newspapers contained such statements about polls. Regarding the direction of these methodological poll judgments, it was found that when the poll's methodology was explicitly evaluated in an article (31%), it was, on average, more often expressed in a quite to very negative way (17% of the total number of poll articles; 59% of the judgments), than in a neutral or positive way (7% of total number of poll articles; 20% of the judgments). This indicates that if the news media provided an evaluative judgment about polls, these were depicted more frequently as unreliable measures of people's opinions than as reliable measures. This finding is in line with what Brettschneider (1997, p. 255) observed regarding the overall negative evaluative tendency displayed in pre-electoral poll reports in German newspapers.

Table 2-14: Expression of methodological poll judgments (number, direction and source) between 2000 and 2006, based on poll-dominant articles (n=1359) and evaluative judgments (n=520)

	Based on articles (n=1359)		Based on judgments (n=520)	
Methodological judgment	%	(n)	%	(n)
Number				
None	69.17	(940)	-	-
One	25.53	(347)	-	-
More than one	5.30	(72)	-	-
Direction				
Quite to very negative				
% based on total of articles	17.14	(233)	59.04	(307)
% based on articles with at least one judgment	*55.61*			
Balanced, neutral				
% based on total of articles	6.62	(90)	18.46	(96)
% based on articles with at least one judgment	*21.48*			
Quite to very positive				
% based on total of articles	7.06	(96)	22.50	(117)
% based on articles with at least one judgment	*22.91*			
Source				
Journalist	17.07	(232)	44.62	(266)
Politician	10.67	(145)	35.96	(287)
Pollster	4.42	(60)	12.88	(333)
Academic	1.47	(20)	4.04	(21)
Other	1.18	(16)	2.50	(34)

Note: The subcategories of the variables number and direction were summed to 100%, whereas the variable source was measured by dummy-variables, because a poll-article could contain more than one methodological judgment expressed by different sources (which could not be averaged at the article level, such as for direction). The five-point scale for direction of evaluative judgment was presented in three broader groups: positive, balanced, negative

Furthermore, a distinction was made between the different sources of the evaluative poll judgments, because the way in which poll results are critically evaluated may depend on which viewpoints and/or external comments journalists choose to use in creating their news articles about polls. Table 2-14 shows that in addition to journalists, who expressed in 17 percent of the poll-dominant articles an evaluative poll judgment (or in 45% of the judgments, n=520), politicians expressed such poll evaluation in 11 percent of the articles (or 36% of the judgments). To a lesser extent, the explicit methodological judgments came from pollsters (4% of the articles; 13% of the judgments), academics (1%; 4%) or other individuals, such as the spokesperson of an organization (1%; 3%).

By considering the evaluative direction of the methodological statements expressed by different sources (using the original five-point scale), it was found that significantly more negative judgments about the published polls were expressed (Kruskal Wallis Chi^2 (df=4)=79.87; p<.0001) by academics (M=1.48, n=21) and politicians (M=2.02, n=187), compared with the poll evaluations given by journalists (M=1.75, n=232) and pollsters (M=3.46, n=67). These results are in line with general expectations. For example, the on average most positive evaluations expressed by pollsters could be expected, since they defend their own polling industry. By contrast, the on average most negative evaluations of methodology expressed by academics could also be expected, as they typically criticize polls that do not conform to high-quality, academic standards of survey methodology. Moreover, the negative methodological evaluations of politicians support previous findings from Brettschneider (1997, p. 255) in German newspapers, as well as from Smith and Verall (1985, p. 76) in Australian television news.

2.4.4.3. Content of methodological information

In addition to the quantity of disclosed methodological poll information in newspaper articles, the content of this information was considered, following the sequence of the aspects from Table 2-13. Although for particular types of methodological information the disclosure was quite limited, it provides additional information about which and how poll information was used to manufacture news about opinion polls by the Flemish newspapers between 2000 and 2006.

2.4.4.3.a. Pollster

Based on the information disclosed about the pollster, indications of the media-involvement in the polls were previously derived and discussed in Subsection 2.4.2.1.

2.4.4.3.b. Target population

From the limited number of poll-dominant articles that disclosed a definition of the target population (n=90; 6.6%), it was most frequently referred to a specific geographical poll range and age limit (e.g. 'the Flemish population from 18 years and older'). In particular regarding electoral polls, the target population was often defined as 'the eligible voting population on Election Day'. However, a lot of the poll-dominant articles (93%) did not disclose any definition of the target population and referred only very generally to, for example, 'the Flemish'.

2.4.4.3.c. Sample size

Based on the over-time decreasing number of poll articles (from 43% in 2000 to 29% in 2006) that disclosed the exact sample size (n=455), it was observed that the sample size of the polls reported ranged from less than 100 respondents (e.g. a poll about a general issue commissioned by the economic organization '*Voka*' polled 20 people from local companies in Antwerp) to more than 100.000 respondents (e.g. the media-commissioned the 'Largest Neighbourhood Survey' polled 100.714 respondents in 307 Flemish communities about electoral and political issues). The median sample size disclosed in the poll-dominant articles was 1000 in the year of 2000 (M=4847), 1108 in 2002 (M=2209), 1003 in 2004 (M=3824) and 1900 (M=15912) in 2006. Thus, despite a broad range of sample sizes reported, the median sample size disclosed ranged between 1000 and 2000 respondents.

In addition to the disclosure of the exact sample size, some articles (n=31) referred to the sample size as an indication of poll reliability. More specifically, it was argued that the greater the sample size, the more reliable and statistically accurate the poll, because of the decrease in the margin-of-error. The following examples from the poll articles illustrate this argument:

> « *Een peiling is preciezer als de steekproef groter is. Ons staal van 1.000 personen is kleiner dan bij een wetenschappelijke proef, maar groter dan bij de befaamde peilingen van La Libre Belgique.* » (2002) [Translation: A poll is more accurate if the sample is larger. Our sample of 1.000 persons is smaller than for an academic survey, but larger than for the famous polls of La Libre Belgique]

> « *Nauwkeurigheid - of betrouwbaarheid - heeft in hoofdzaak te maken met de grootte van het onderzoek. Hoe meer mensen worden ondervraagd, hoe preciezer de resultaten en*

hoe kleiner de foutenmarge » (2006) [Translation: Accuracy – or reliability – is primarily related to the size of the research. The more people are surveyed, the more accurate the results and the smaller the margin-of-error]

Occasionally, it was reported that although a small sample size produced no representative poll results, suggestive conclusions could be drawn from the results:

« *Ook al is het een kleine steekproef met hoge foutenmarges, toch mogen we voorzichtig stellen dat het arrest een aantal kiezers van het 'Vlaams kartel' doet twijfelen.* » (2004) [Translation: Even though it is a small sample with large margin-of-errors, we could cautiously state that the arrest causes doubt with some voters of the 'Flemish cartel']

« *Zoals altijd beweren we niet dat deze resultaten representatief zijn, wel dat ze een indicatie geven: er is behoefte aan protest.* » (2006) [Translation: As always, we do not pretend that these results are representative, but that they give an indication: there is a need for protest]

2.4.4.3.d. Sample procedure

From the very limited number of poll articles disclosing information about the sample procedure (n=28; 2.1%), it was most frequently referred to the absence of a random sample:

« … *defecte steekproefplannen (…) Een van de redenen hiervan is dat de peilers dan minder zorg besteden aan een zorgvuldige toevallige selectie* » (2000) [Translation: …flawed sampling plans (…) One of the reasons for this is that the pollsters take less care over a careful random selection]

« *De Stemmenkampioen kan zich immers nooit op een toevalssteekproef van kiezers baseren, waardoor geen enkele vorm van statistische analyse kan opgaan, laat staan dat men kan komen tot veralgemenende uitspraken voor de gehele populatie.* » (2006) [Translation: The Voting Champion can indeed never be based on a random sample of voters; as a consequence no statistical analysis whatsoever can be used, and especially no generalizing statements can be made for the general population]

2.4.4.3.e. Poll mode

Although a large percentage of poll-dominant articles did not contain any explicit reference to the mode of data collection (87.6%), from those articles that disclosed this mode (n=169), it was observed that the most frequently mentioned modes were polling

by telephone (43%; n=73) and through the Internet (40%; n=67). In line with general expectations about the increasing use of the Internet to measure opinions, references to Web-based opinion polls increased over-time (from 1 article in 2000 to 33 articles in 2006). A similar result was found based on the mode of the unique polls reported in Subsection 2.4.3.3.a.

Apart from the exact data collection mode, methodological problems related to the implemented mode were mentioned in some poll-dominant articles (n=38). Regarding polls by telephone, it was referred to the non-coverage of particular subgroups in the population, such as young people who use cell phones instead of a fixed telephone line, as well as the socially weak without any telephone connection:

> « *De meeste opiniepeilingen over kiezersgedrag bij ons worden per telefoon afgenomen. Daar valt al meteen een hele groep mensen af die geen telefoon heeft, of die - zoals de jongeren - vooral een gsm gebruikt.* » (2004) [Translation: Most of the opinion polls about voting behaviour with us are conducted by telephone. Consequently, a whole group of people are immediately dropped out who have no telephone, or – like the youngsters – especially use a mobile phone]

> « *Het lijkt ons essentieel te vertellen dat het gaat om telefonische enquêtes. De groep niet-telefoonbezitters valt uit de boot en daarin zitten doorgaans de sociaal zwakkere groepen.* » (2000) [Translation: It seems essential to tell that these are surveys by telephone. The group of people who do not own a telephone are dropped out and in this group are mostly the socially weaker groups]

Additionally, the mode effect of social desirability bias was occasionally mentioned, as people would not wish to express their voting intention for the extreme right-wing party 'Vlaams Belang' to an interviewer on the phone:

> «*Tenslotte is het ook niet slecht te herinneren aan typische verschijnselen, zoals een traditionele onderschatting voor het Vlaams Blok en een overschatting voor VLD en Agalev. Daar zijn psychologische en sociologische redenen voor.* » (2000) [Translation: Finally, it is also not bad to remember typical phenomena, such as the traditional underestimation for the Vlaams Blok and the overestimation for VLD and Agalev. There are psychological and sociological reasons for this]

« *Het Vlaams Blok verliest lichtjes. Deze partij scoort traditioneel minder goed in telefonische peilingen* » (2002) [Translation: The Vlaams Blok slightly loses. This party sores traditionally less good in polls by telephone]

Regarding Internet-polls, on the other hand, methodological problems related to self-selection, especially in the case of Internet panels of volunteers, and non-coverage due to unequal Internet access were mentioned as sources of bias in the poll results reported, mainly because of an overrepresentation of higher-educated, young and politically-interested respondents.

« *Professor Herwig Reynaert (UGent) wijst er wel op dat het panel een vertekend resultaat geeft omdat er sprake is van een oververtegenwoordiging van hoger opgeleiden.* » (2006) [Translation: Professor Herwig Reynaert (University of Gent) indicates that the panel gives a biased result, because of an overrepresentation of higher-educated people]

« *Ten eerste wordt deze internetpeiling gekenmerkt door panelvertekening als gevolg van zelfselectie (…) toont onderzoek aan dat in het algemeen vooral bejaarde, vrouwelijke, laag opgeleide en werkloze kiezers in internetpanels ondervertegenwoordigd blijven. (…) Ten tweede is een omvangrijk deel van de onderzoekspopulatie, meer bepaald diegenen zonder internetaansluiting, gewoonweg niet opgenomen in het steekproefdesign.* » (2006) [Translation: First of all, this Internet panel is characterized by panel bias due to self-selection (…) research shows that in general especially elderly, female, low educated and unemployed voters are underrepresented in Internet panels. (…) Secondly, a large part of the research population, and in particular those without Internet access, can simply not be included in the sampling design]

An additional methodological problem of Internet-polls that was occasionally mentioned was the potential manipulation of online poll results:

« *(…) maakt het open registratiesysteem de Stemmenkampioen daarenboven nog eens uitermate gevoelig voor manipulatie. Hoewel elke deelnemer slechts met één geldig elektronisch adres kan deelnemen en er in de verwerking van de gegevens filters ingebouwd zijn om (grootschalige) manipulatie te dwarsbomen, valt er tegen politieke mobilisatie, waarbij partijen hun achterban oproepen om zich in te schrijven voor de Stemmenkampioen, niet veel te beginnen. Succesvolle politieke mobilisatie kan zo de samenstelling van het hele panel overhoophalen* » (2006) [Translation: (…) additionally, the open registration system of the Voting Champion makes it extremely sensitive to manipulation. Although every participant can only participate with one valid electronic address and filters are build into the analysis of the data in order to prevent manipulation,

there is not much one can do against political mobilization, by which parties call on their party supporters to subscribe to the Voting Champion. In this way, successful political mobilization can change the composition of the whole panel]

« *De Antwerpse VLD heeft een mail rondgestuurd waarin opgeroepen wordt iets te ondernemen tegen het slechte resultaat van de partij in de 'Stemmenkampioen'. (…) Stephan Bogaert, voorzitter VLD Groot-Antwerpen, roept de militanten op zich samen met familie en vrienden te registreren. 'De CD&V deed het ons voor' (…) 'Uit de resultaten blijkt duidelijk dat militanten van CD&V zich duidelijk massaal geregistreerd hebben. Iets wat ik onze militanten nu ook wil zien doen. Op die manier kunnen we dat vertekend beeld rechttrekken. De resultaten zijn niets waard, maar ze beïnvloeden wel de publieke opinie.'* » (2006) [Translation: The VLD in Antwerp has sent an e-mail in which it is called onto action against the bad result of the party in the 'Voting Champion' (…) Stephan Bogaert, chairman of VLD Antwerp-region, calls on the militants to register together with family and friends. 'The CD&V showed how to do this' (…) 'From the results it is obvious that a lot of militants of the CD&V have registered themselves. This is something that I want from our militants too. In this way, we can adjust the biased image. The results are worth nothing, but they do influence the public opinion']

But, occasionally, Internet-polls were also considered unproblematic to measure the opinions of the general public:

« *De resultaten zijn zeer betrouwbaar. De on line bevolking ligt intussen enorm dicht bij de totale Belgische populatie. Bovendien is het aantal oudere deelnemers dit jaar fel gestegen en hebben we met 32.000 een luxeaantal respondenten.* » (2006) [Translation: The results are very reliable. The online population is currently very close to the total Belgian population. Moreover, the older participants highly increased this year and with 32.000 people, we have a luxury amount of respondents]

2.4.4.3.f. Fieldwork dates

Based on the information disclosed about the fieldwork dates, the length of the fieldwork period, as well as the time span between this fieldwork and the poll publication could be calculated. This was reported previously in Subsection 2.4.3.2.

2.4.4.3.g. Question wording

In the articles that disclosed some information about the poll questionnaire (n=222), the exact question wording was only mentioned in 53 poll articles (or 3.9%), whereas most of the disclosed information referred less specifically to the questions asked. Additionally,

some of the articles (n=73) mentioned methodological issues related to the poll questionnaire. For example, it was occasionally referred to the underlying concept that was measured by the poll questions:

> « *Eerst vroegen we de Antwerpenaren op welke partij ze zes jaar geleden hebben gestemd. Dan vroegen we of ze al weten op welke partij ze nu zullen stemmen. Zo bepaal je bij welke partij de meeste twijfelaars zitten. Aan de kiezers die al beslist hebben, vroegen we vervolgens of ze bij hun partij van zes jaar geleden blijven. Zo leg je de partijtrouw vast. Aan de twijfelaars vroegen we tussen welke partijen ze aarzelen. Zo krijg je een idee van de groei- of verliesmarge, die de verschillende partijen nog hebben.*» (2000) [Translation: First, we asked the Antwerp citizens which party they voted six years ago. Then, we asked whether they already know which party they will vote for now. In this way, you determine in which party are the most doubters. To the voters who already decided, we subsequently asked whether they stay with their party of six years ago. In this way, you determine party-loyalty. To the doubters, we asked between which parties they doubted. In this way, you get an idea of the margin of growth and lost that the parties still have]

Or, in contrast, it was mentioned what could not be measured due to the absence of poll questions:

> « *De opiniepeilers waarschuwen dat de peiling de mogelijke uitkomst van nationale referenda over de EU-grondwet niet kan voorspellen. Want de vraag had alleen betrekking op het concept van een grondwet, niet over de eigenlijke tekst die de regeringsleiders eind oktober ondertekenden.* » (2006) [Translation: The pollsters warn that the poll cannot predict the outcome of the national referenda about the EU-constitution, because the question was only about the concept of the constitution, not about the actual text that the governmental leaders signed last October]

Furthermore, problems with the question formulation and order, as well as the inaccuracy of poll comparisons due to different wordings were occasionally mentioned:

> « *(…) De vragen zijn genuanceerder dan in de 'snapshot-enquête' van de Eurobarometer die maandag werd vrijgegeven. Toen werd de vraag gesteld of men 'voor of tegen' de uitbreiding was. Nu zitten er verschillende categorieën en nuances in de antwoordmogelijkheden* » (2002) [Translation: The questions are more subtle than in the 'snapshot-survey' of the Eurobarometer which was released on Monday. In that survey, the question was asked whether one was 'for or against' the enlargement. Now there are different categories and subtleties in the answer possibilities]

> « *maar die resultaten zijn moeilijk vergelijkbaar omdat de vraagstelling anders is.* » (2004) [Translation: but these results are difficult to compare because of different question wording]

In the following example, the poll questionnaire was not only methodologically, but also politically considered important:

> « *Carl Decaluwé wil dat Steve Stevaert uit de driemaandelijkse peilingen van De Standaard/VRT wordt geschrapt. Het onderzoek naar de populariteit van de voormalige SP.A-voorzitter geeft volgens het CD&V-Vlaams parlementslid de indruk dat hij nog altijd in de politiek zit. Ook voedt het de suggestie als zou hij nog altijd een prominente politieke figuur zijn binnen de SP.A.* » (2006) [Translation: Carl Decaluwé wants Steve Stevaert to be removed from the three-monthly polls of De Standaard/VRT. The research about the popularity of the former SP.A-chairman gives the impression that he is still active in politics according to the CD&V-member of Flemish parliament. This also suggests that he would still be a prominent political personality within the SP.A]

2.4.4.3.h. Summary

Although overall, quite limited methodological information was disclosed about the polls (cf. Table 2-13), the content of this information gives additional insight in how this methodological information was used in the Flemish newspapers. For example, the included examples of statements from the poll articles illustrate that methodological problems (e.g. due to sample size, representativeness, poll mode) were occasionally recognized. This implies that journalists are aware of the methodological limitations of poll results, while it was shown in previous sections that they disclose only sparse information about how to evaluate the methodological quality of the polls published. This indicates a quite ambiguous relationship between news media and opinion polls.

2.4.4.4. Differences between years

This section examines whether the way in which Flemish newspapers reported upon the poll's methodology significantly differed between the years under consideration (2000-2006), and more specifically whether the quality of the methodological poll reporting declined over time. To this end, the index measures of methodological disclosure and the expression of methodological judgments were sub-grouped by the years under consideration.

First, regarding the over-time trend in the index measures of methodological disclosure per article, a statistically significant decline was observed in the Flemish newspaper

articles between 2000 and 2006 (for the strictest measure: Kruskal Wallis $Chi^2_{strictest}$ (df=3)=29.42; p<.0001; for the less strict measure: Kruskal Wallis $Chi^2_{less\ strict}$ (df=3)=51.07; p<.0001). This result indicates that the Flemish newspapers disclosed less methodological information during the recent years between 2000 and 2006 (cf. Table 2-13).

Second, regarding the expression of methodological judgments in poll-dominant articles, it was found that the percentage of articles that did not contain any poll judgment significantly increased between 2000 and 2006 (Chi^2 (df=3)=35.83; p<.0001). Whereas in 2000, 55 percent of the poll articles contained no evaluative statement about the poll's methodology, this was 76 percent in 2006. This finding suggests that the Flemish newspaper articles became less critical over-time, due to an increasing lack of any evaluative poll judgment between 2000 and 2006. However, whereas for example Brettschneider (1997, p. 257) found that the average evaluative direction of the methodological judgments within the articles became less negative over-time (more specifically between 1980 and 1994) in German poll reports, this average (M=2.61) did not significantly differ between the years under consideration in the Flemish poll reports (Kruskal Wallis Chi^2 (df=3)=1.86; p=0.6012). Thus, it was not observed that the Flemish newspapers reported in a more positive way about polls in the time period between 2000 and 2006, although it should be emphasized again that most newspaper articles did not contain any evaluation of the poll's methodology at all.

2.4.4.5. Differences between newspapers

Apart from differences in the methodological reporting of opinion polls over time, differences between the newspapers were tested, as it could be generally expected that quality newspapers would disclose more methodological aspects in their poll-articles and express more frequently methodological poll judgments than popular newspapers (de Boer, 1995). In line with these general expectations, the number of methodological aspects disclosed was indeed slightly higher in the articles published by the quality newspapers ($M_{strictest}$=0.85; $M_{less\ strict}$=1.83) than the popular newspapers ($M_{strictest}$=0.78; $M_{less\ strict}$=1.57), though this difference in methodological disclosure between the types of newspapers was only significant for the less strict measure ($t_{strictest}$ (df=1188)=1.19; p=0.2324; $t_{less\ strict}$ (df=1193)=3.32; p=0.0009). This means that quality and popular newspapers published a similar number of specific references to poll methodology (such as the exact fieldwork dates), while the quality newspapers included more general references to methodology (such as some time indication of the fieldwork) than the

popular newspapers. Further examination at the level of the newspaper titles revealed that especially (Kruskal Wallis $Chi^2_{strictest}$ (df=5)=25.76; p<.0001; Kruskal Wallis $Chi^2_{less\ strict}$ (df=5)=61.23; p<.0001) the quality newspaper *De Tijd* disclosed, on average, the most methodological aspects ($M_{strictest}$=1.19; $M_{less\ strict}$=2.30), whereas the popular newspaper *Het Laatste Nieuws* disclosed the least methodological aspects ($M_{strictest}$=0.68; $M_{less\ strict}$=1.29). A possible explanation for these differences between the newspaper titles may be due to differences in the degree of difficulty with which articles are written, depending on their respective audience. For example, de Boer (1995) argued that the degree of difficulty in the writing style is higher when more methodological details are included in articles. She posits that journalists adapt their writing style to the audience. For example, the quality paper *NRC Handelsblad* in the Netherlands has a more difficult writing style than popular newspapers (such as *De Telegraaf* or *Algemeen Dagblad*), because of their higher-educated readers (de Boer, 1995, pp. 165-170). Similar differences may apply to *De Tijd* and *Het Laatste Nieuws* in Flanders.

Regarding the expression of methodological poll judgments by newspaper type, it was observed that significantly (Chi^2 (df=1)=4.66; p=0.0308) more articles in quality newspapers expressed a methodological evaluation of polls (34%), than articles in popular newspapers (29%). Moreover, it was found that when the quality newspapers expressed such an evaluation, it was on average significantly (t (df=417)=-2.66; p=0.0081) more negative (M=2.44), than the popular newspapers (M=2.75). Thus, the results of these significance tests are in line with general expectations based on the typical characteristics of the different types of newspapers as they revealed that overall, the Flemish quality newspapers disclosed more general references to methodological aspects and that they expressed more critical judgments on opinion polls, compared with the popular newspapers.

2.4.4.6. Differences between electoral and general poll news

It may be important to test for differences in the methodological reporting of electoral poll news relative to general poll news, as differences were observed in the newsworthiness attributed to these types of poll news (cf. Subsection 2.4.3.4). Therefore, the methodological disclosure index and the expression of methodological judgment (number and direction) were sub-grouped by the publication date (published in the last three pre-electoral months or in another month) and the poll subject (electoral, general, combined) of the poll-dominant articles (n=1359).

First, regarding the publication date, it was found that in electoral years, the average methodological disclosure was slightly lower when the poll-dominant articles were published in the last three pre-electoral months ($M_{strictest}$=0.74; $M_{less\ strict}$=1.48) than when they were published in other months ($M_{strictest}$=0.83; $M_{less\ strict}$=1.61), though these differences were only significant for the less strict index measure (Kruskal Wallis $Chi^2_{strictest}$ (df=1)=2.60; p=0.1967; Kruskal Wallis $Chi^2_{less\ strict}$ (df=1)=4.09; p=0.0431). But in the electoral years under study, the methodological expression of at least one evaluative poll judgment did not significantly differ whether the newspaper article was published during the last three pre-electoral months or not (Chi^2 (df=1)=1.36; p=0.2433). Likewise, no significant differences in the mean evaluative direction of these poll judgments were found whether the poll-dominant article was published during the last three pre-electoral months or not (t (df=347)=-0.31; p=0.7580).

However, with regard to the poll subjects, significant differences in the methodological disclosure were found (Kruskal Wallis $Chi^2_{strictest}$ (df=2)=28.79; p<.0001; Kruskal Wallis $Chi^2_{less\ strict}$ (df=2)=48.96; p<.0001). More specifically, the disclosure index measures were significantly lower for the electoral polls ($M_{strictest}$=0.69; $M_{less\ strict}$=1.35) than for the polls about a general issue ($M_{strictest}$=0.87; $M_{less\ strict}$=1.75) and combined electoral-general polls ($M_{strictest}$=0.97; $M_{less\ strict}$=1.78). This suggests that less methodological information was disclosed in articles about electoral polls. But in contrast, it was observed that reports about electoral polls significantly (Chi^2 (df=2)=110.76; p<.0001) more frequently (61.34%) included an evaluative poll judgment than reports about polls on a general issue (20.76%, n=87), which lacked more frequently any methodological judgment. Thus, although the electoral poll articles disclosed less methodological poll aspects, they contained more often an evaluative judgment about the poll's methodology. Further inspection revealed that the Flemish newspapers were more critical about these electoral polls. Indeed, by classifying the mean evaluative direction of these methodological judgments according to the reported poll's subject, it was found that the electoral (M=2.31) and combined electoral-general polls (M=2.79, n=75) received significantly (Kruskal Wallis Chi^2 (df=2)=36.54; p<.0001) more negative evaluations in articles; whereas the polls on a general issue (M=3.33, n=87) were slightly more positively evaluated. A possible explanation for electoral polls being criticized more negatively could be that only for this kind of polls an external validation test does exist, namely the actual election results with which the pre-election polls can easily be compared with to test the accuracy of the polls. For most of the opinion polls concerning more general issues, such a harsh test is not available.

2.4.4.7. Differences according to media-involvement

Finally, it was examined to what degree the methodological reporting of opinion polls was different whether or not the media were involved in the polls published in the poll-dominant articles (n=1359). Therefore, the methodological index measures and the expression of methodological judgment (number and direction) were sub-grouped according to the media-involvement. The following indicators of media-involvement were used: the general dummy variable between media-polls (if media were disclosed as commissioners or pollsters) and non-media polls (if another poll source was disclosed), as well as the further classification between polls from the 'own' media (from the publishing newspaper or a newspaper from the same press house) and polls from commercially competing media (e.g. other newspapers, television).

It was observed that the index measures of methodological disclosure were on average slightly higher if media were involved, as commissioners or pollsters, in the polls published ($M_{strictest}$=1.07; $M_{less\ strict}$=2.26), than if the media were not involved ($M_{strictest}$=1.00; $M_{less\ strict}$=1.94), though this was only significant for the less strict measure ($t_{strictest}$ (df=948)=0.78; p=0.4354; $t_{less\ strict}$ (df=869)=4.12; p<.0001). This means that newspaper articles about media-polls included more general references to poll methodology than articles about non-media polls, whereas their number of specific methodological references included was quite similar. However, in the case of media-involvement, both methodological index measures were significantly ($t_{strictest}$ (df=363)=-2.69; p=0.0121; $t_{less\ strict}$ (df=363)=-2.37; p=0.0184) higher for the articles about polls in which the newspaper itself or another newspaper of the same press house was involved ($M_{strictest}$=1.19; $M_{less\ strict}$=2.10), compared with articles about polls from other media sources ($M_{strictest}$=0.89; $M_{less\ strict}$=1.84). Thus, polls in which the media themselves were involved as commissioners or pollsters were published with significantly more methodological aspects disclosed than polls from other media.

Regarding the expression of evaluative judgments, a dummy variable was used in the significance tests whether at least one evaluative poll judgment was expressed in a poll-dominant article, or no such judgment. Similar to the previous finding, significant differences in the expression of evaluative judgments in poll articles were found whether or not media were involved in the poll reported (Chi^2 (df=1)=14.93; p<.0001). More specifically, it was observed that news articles which referred to a media-poll more frequently comprised at least one methodological poll judgment (34%) than articles which

referred to another poll source (22%, n=88). Further inspection revealed that news articles in which the publishing newspaper (or a newspaper of the same press house) commissioned or conducted the poll itself comprised significantly (Chi^2 (df=1)=4.71; p=0.0299) more frequently an evaluative poll judgment (39%, n=84), than articles which referred to another media-poll (30%). Furthermore, it was found that the articles which disclosed media as the poll source (i.e. commissioned or conducted the poll) were significantly (t (df=154)=2.22; p=0.0277) more negative (M=2.63) than the articles which disclosed another poll source (M=3.01, n=88). Thus, it seems that journalists were more critical in their articles about media-polls than in articles about other polls. But further examination revealed that articles about a poll that was commissioned or conducted by the publishing newspaper itself (or a newspaper of the same press house) was significantly (t (df=185)=-2.95; p=0.0036) more positive (M=2.92, n=84) than articles about a poll from another media source (M=2.40). This expression of more positive judgments about the own polls and more negative judgments about polls from other media sources is in line with general expectations about the commercial competition between media organizations.

2.4.4.8. Summary

In this section, it was observed that the Flemish newspapers under study reported in a quite unambiguous way upon poll results, which are however typically characterized by ambiguity due to methodological limitations (RQ3b). The observations of a limited number of methodological elements disclosed in paper articles (low index measures of methodological disclosure) together with a limited number of methodological poll evaluations expressed indicate that the Flemish newspapers used poll results in their news articles in a rather uncritical way. This uncritical use of polls in the news may have implications for the perceived credibility and accuracy of polls in the public. Furthermore, it was found that the degree of unambiguous poll news increased between 2000 and 2006 (less methodological aspects disclosed and less articles contained at least one evaluative poll judgment). Thus, although more poll articles have been published during recent years, less attention has been paid to the methodological quality of these poll publications. In line with general expectations regarding different types of newspapers, it was found that quality newspapers reported more critical about opinion polls than popular newspapers.

Regarding the type of poll news, it was found that although the reports about electoral polls disclosed significantly less methodological aspects, they contained more frequently

an evaluative poll judgment, which was most frequently formulated in the negative direction, relative to poll reports about a general issue. Finally, as could be expected, the methodological reporting of polls significantly differed whether or not the media were involved in the polls published. In general, reports about media-polls were of a higher methodological quality (in terms of more methodological aspects disclosed and more evaluative poll judgments expressed) than reports about polls from other sources. In particular, reports about polls from the publishing newspaper (or from a newspaper of the same press house) disclosed more methodological aspects, and they were also more positive about the poll reported than reports about polls from commercially competing media.

A possible alternative for not disclosing much methodological information within the newspaper articles is to refer to an external information source, such as a Website where more information can be found about the poll's methodology. However, in the newspaper articles that were content analyzed, such reference to another information source for the methodology was observed only very rarely. The Website of the professional association for market research in Belgium, Febelmar, for example, displays technical poll reports for so-called 'political polls' about voting intentions. But for example in the year of 2008, in which 1180 articles with a reference to opinion polls were counted (cf. Appendix A), only six reports with methodological information were published on the Website of Febelmar (2008). Thus, despite Febelmar's recommendation to publish a technical report about political polls published in the news media on their Website, this is actually done only very rarely.

2.4.5. Meaningful interpretation of poll results

A third expectation about the manufacturing role of the Flemish newspapers in poll news studied is based on the news criterion of meaningfulness, namely that newspapers would wish to give meaningful interpretations to poll results, rather than disseminate them in a purely informative way, without any interpretations (RQ3c). Therefore, the way in which the newspapers interpret poll results in their articles (focusing on raw poll results or interpretations; using causal or implicative interpretations), as well as particular types of poll interpretations are examined, namely the perceived poll influence (on polls and from polls) and interpretations in terms of the 'will' of the public.

2.4.5.1. Interpreting poll results

In order to study the way in which the Flemish newspapers interpret poll results in their articles, the poll articles were scaled whether they focused on the dissemination of raw poll results or in contrast focused on the interpretations and analyses of the poll results. Subsequently, the interpretations used in the poll articles were classified as causal or implicative.

2.4.5.1.a. Focus on raw poll results or interpretations

First of all, the degree to which the Flemish newspapers interpreted the poll results in their news articles was studied, because by analyzing and interpreting poll results, rather than merely transmitting results to the public can be an indication of a more 'subjective' way in which the news media use opinion polls in the news. To study the degree to which poll results were interpreted, the poll-dominant articles (n=1359) were coded on a five-point scale of which the values were assigned as follows: (1) articles consisted entirely of raw poll results (often percentages), without any interpretation; (2) the main focus of the articles was on disseminating the raw poll results, with a few interpretations; (3) half of the article consisted of raw poll results and the other half of the text were interpretations; (4) the main focus of the articles was on poll interpretations, with a few raw poll results; (5) articles consisted entirely of interpretations or subjective analyses of the polls, without any raw poll results disclosed. Those articles that did not contain any poll results, nor interpretations (e.g. articles about polls in general) were not taken into account (coded as not applicable).

Based on this five-point scale, results are grouped into three broader categories in Table 2-15, namely articles of which the focus was on disseminating poll results in an informative way, by including any or only a few interpretations (58%); articles of which the text was balanced between raw poll results and interpretations (13%); articles of which the focus was on interpretations and analyses of the poll results (29%). Thus, it seems that the newspaper articles mainly focused on a quite 'informative' dissemination of poll results, with a limited number of interpretations. This contrasts with the a priori expectation that news media would mostly attribute meaningful interpretation to poll results. The nature of the interpretations that were included is further inspected.

Table 2-15: Summary of media-interpretations about poll results, based on percentage (number) of poll-dominant articles (n=1359) between 2000 and 2006

	2000-2006 (n=1359)	
Giving meaning to poll results	%	(n)
Interpretation of poll results within articles		
Rather to very objective report (mainly poll results)	58.45	(730)
Neutral or balanced report	12.97	(162)
Rather to very subjective report (mainly interpretations)	28.58	(357)
Nature of interpretations		
Cause (past)	43.71	(594)
Implication (future)	42.09	(572)
Public's will		
Support	3.68	(50)
Contrast	2.35	(32)
Perceived influence		
On polls (opinions)	19.80	(269)
From polls on politics	11.99	(163)
From polls on policy	5.96	(81)
From polls on public	1.18	(16)

2.4.5.1.b. Causal or implicative interpretations

Following Smith and Verall (1985), the nature of the meaning or interpretation of poll results can be causal or implicative. Causal interpretations are statements about the factors that produced the poll results, for example because of a certain event or political action. Implicative interpretations, on the other hand, consist of conclusions inferred from the poll results and discussions about these inferences (Smith & Verall, 1985, pp. 66-67). To make a clear distinction between both, an interpretation was coded as a cause if it referred to elements in the past that could have caused the poll results obtained or as an implication if it referred to elements in the present or future, such as conclusions derived from the poll results. As both types of interpretations could occur in an article, they were coded as dummy-variables, whether they were present in an article or not. These are some examples of causal interpretations from the articles:

> « *Er is maar één logische verklaring. De bevraging gebeurde in de maand februari. Toen laaide in Ekeren de controverse op rond de vestiging van een asielcentrum in de vroegere Sint-Lucaskliniek. Het Vlaams Blok plukt daar de vruchten van.* » (2000) [Translation: There is only one possible explanation. The survey was conducted in February. During that month, there was the controversy about the establishment of an asylum seekers' centre in the former Sint-Lucas Hospital in Ekeren. The Vlaams Blok benefits from this]

> « *Dat zou wel eens te maken kunnen hebben met het feit dat Louis Michel zijn partijgenoten in de Senaat opdracht gaf om net als de Vlaamse liberalen tegen het stemrecht voor migranten te stemmen*. » (2002) [Translation: That could be related to the fact that Louis Michel commissioned his fellow party members in the Senate to vote against the voting right for migrants, similar to the Flemish Liberals]

While the following examples illustrate implicative interpretations:

> « *Dit betekent overduidelijk dat mensen van om het even welke partij die aan de macht willen deelnemen, het racisme moeten afzweren.* » (2000) [Translation: This obviously means that people from every party that wish to participate in the power, need to renounce racism]

> « *De plausibele conclusie is dat de kiezers in de eerste plaats op zoek zijn naar ernst*. » (2004) [Translation: The plausible conclusion is that voters are searching for seriousness in the first place]

Table 2-15 shows that 44 percent of the poll-dominant articles contained a causal interpretation of poll results and that 42 percent contained an implicative interpretation. It was found that about 21 percent of the articles contained both a causal and an implicative interpretation of poll results. Compared with a study of (Australian) television coverage of opinion polls by Smith and Verall (1985), which observed only a small percentage of articles containing a causal interpretation (9%), the Flemish newspapers contained much more causal interpretations (44%). But the percentage of implicative interpretations was slightly higher in the Australian television coverage (54%) than in the Flemish newspapers (42%) (Smith & Verall, 1985, p. 67).

2.4.5.2. Differences between years

Over-time differences in the degree to which poll results were interpreted in the poll-dominant articles were tested, because it may be expected that polls have been used in a more interpretative way during recent years (Rosenstiel, 2005), and more specifically between 2000 and 2006. For this reason, the scale value about the presence of interpretations in the poll-articles relative to the raw poll results (ranging from 1=merely raw poll results, to 5=only interpretations) was sub-grouped by the years under study. It was observed that the average presence of interpretations (M=2.57) significantly differed between the years (Kruskal Wallis Chi^2 (df=3)=9.36; p=0.0249), though no significant increase over the years was found. Instead, the average included interpretations was

somewhat lower in the articles published in the non-electoral year 2002 (M=2.4), than for those published in the electoral years under study, which means that in the non-electoral year, the poll-dominant articles focused on average more often on the informative dissemination of raw poll results, compared with the electoral years in which the articles consisted more often of interpretations and analyses of the poll results. This brings us to potential differences in the degree to which newspapers interpreted poll reports between electoral and general poll news.

2.4.5.3. Differences between electoral and general poll news

Because it may be expected that electoral polls would be reported differently by the news media, such as with more interpretations and analyses of the poll results, differences in the scale value of included interpretations were tested for different publication months (whether or not the poll-dominant article was published during the last three months before an election) and for different poll subjects (electoral, general, combined electoral-general).

First, it was found that the average included interpretations in the newspaper articles was significantly (Kruskal Wallis Chi^2 (df=1)=4.02; p=0.0451) higher in those articles published in the last three pre-electoral months (M=2.68) of the electoral years, than those published in non-electoral months (M=2.52) of these years. Second, regarding the poll subject, it was observed that the newspaper articles about electoral polls (M=2.86) and combined electoral-general polls (M=3.05) consisted on average of significantly (Kruskal Wallis Chi^2 (df=2)=96.19; p<.0001) more interpretations and analyses, compared with the articles about polls on a general issue (M=2.10), which focused more often on an informative dissemination of raw poll results, with fewer interpretations. Thus, it was indeed observed that electoral poll results were more often interpreted by the Flemish newspapers in their articles, than poll results about more general issues.

2.4.5.4. Differences according to media-involvement

Finally, differences in the degree to which poll-dominant articles (n=1359) consisted of interpretations were studied according to the media-involvement. The following indicators of media-involvement were considered: the dummy variable whether the media were disclosed as poll source (those who commissioned or conducted the poll) or not, as well as the dummy variable whether the 'own' media (publishing newspaper or a newspaper of the same press house) or commercially competing media were disclosed as the poll source.

It was found that the articles about polls in which the media were disclosed as poll source contained on average significantly (t (df=855)=-2.42; p=0.0159) more interpretations (M=2.47), than the articles about polls from other sources (M=2.28). Further inspection revealed that the articles about media-polls contained significantly (t (df=514)=-10.08; p<.0001) more interpretations if the newspaper itself (or a newspaper of the same press house) was involved in the poll reported (M=3.22) than if another media-source was involved in the poll (M=2.07). This supports general expectations that media provide more interpretations about their 'own' polls, comprising more analyses of the poll results, than about polls from commercially competing media or other external sources.

2.4.5.5. Perceived poll influence

A particular type of interpretations in poll articles consists of explicit claims about poll influence. Such perceptions of poll influence in the media coverage of opinion polls were observed in previous research of different countries (Smith & Verall, 1985; Andersen, 2000; Brettschneider, 1997). Indeed, journalists often seem to criticize polls for their potential influence and even 'manipulation' of opinions, especially during elections (Brettschneider's, 1997, p. 257). Therefore, explicit statements in the Flemish newspaper articles about poll influences were registered. A distinction was made between the statements that referred to perceived influence *on* polls and *from* polls. The perceived influence on polls consists of possible effects on the opinions actually polled or the poll results obtained, such as influences from particular events or political actions; while the perceived influence from polls refers to potential poll effects on the opinions of the public, political actions or policy decisions after the release of the poll news. Both are respectively considered.

2.4.5.5.a. Perceived influence on polls

First, the perceived influence *on* the opinions polled, or poll results, was examined by explicit statements in the poll-dominant articles (n=1359). Within the causal interpretations, which refer to reasons for the obtained poll results in the past, it was focused on the statements about possible influence on the poll results, and thus, on the opinions polled that were mentioned in the newspaper articles. In 20 percent of the poll-dominant articles, such statements about influence on the opinions polled were mentioned, by diverse sources, such as journalists, politicians, academics and pollsters. They mainly referred to the potential influence of political events or actions (e.g. the formation of a cartel between parties, a party-political scandal, a governmental crisis,

political discussions, campaign actions); more general current events (e.g. economic trends, national disasters or shocking events, such as crimes or terrorist attacks); media (great media-attention, media-hype); or a combination of political, general and media factors. These factors were especially perceived in the newspaper articles to be short-term effects on opinions, rather than long-term effects. They were found more frequently in articles about electoral polls (67%), than in articles about polls on a general issue (15%).

2.4.5.5.b. Perceived influence from polls

Apart from influence on the opinions polled, the media-expressions of influence from the polls were registered, as they provided information about how the newspapers perceived potential poll effects (before these poll effects will be actually studied in Part II, Chapters 6, 7 & 8). To this end, the implicative interpretations, which refer to present and future conclusions inferred from the poll results, were further examined and classified as poll influence on politics (in terms of party-political actions), on (political and economic) policy, and on the public. As Table 2-15 shows, in 163 poll-dominant articles (12%) it was explicitly referred to influence from poll results on politics, while in 81 articles (6%) it was referred to poll influence on political or economic policy, and in 16 articles (1%) it was referred to poll influence on the public (opinion). Although explicit claims about the actual or supposed effects from polls were found in the Flemish newspapers, the percentages remained quite low compared with, for example, a study of (Australian) television coverage, in which as much as 84 percent of the poll stories claimed a potential poll effect (Smith & Verall, 1985, p. 67).

Regarding the influence of polls on party-political actions, the Flemish newspaper articles especially referred to the use of polls by politicians to evaluate their overall political and/or campaign strategy, as well as to take particular party-decisions. Most common examples of such party-decisions based on poll results were deciding whether or not to form a cartel and with which political partner, or deciding on the selection and position of particular politicians on the lists of candidates for elections. Accordingly, a lot of the statements about influence on politics concerned conclusions that politicians (should) draw from the poll results, for example in what direction they should/would go in the future (same direction in the case of reassuring poll results or in a different direction in the case of opposing poll results) and what actions should/would actually be taken to obtain this end. These statements about poll influence on politics were most frequently found in articles about electoral polls (72%). From all the statements about poll influence on

politics (n=182), most were expressed by politicians as reactions to poll news (60%), followed by the author-journalists of the articles (38%).

Statements about the influence of polls on the political policy often referred to taking into consideration the polled opinions of the citizens in policy-making, for example by making a list of priorities and/or governmental actions to take. Occasionally, articles mentioned the efforts of interest groups to influence the policy by means of poll results, namely to support (or resist) a particular bill. Apart from such poll influence on the political policy, some statements referred to influence on the economic policy of a particular company, such as improvement of conditions of employment based on poll results. Almost all of these statements were found in articles about polls on a general issue (80 of 81 articles) and were especially expressed by the author-journalist (in 34 articles) or by a spokesperson of an organization (in 19 articles).

The limited number of statements which were found about poll influence on the public (n=16) referred either to an influence of poll results on the public debate of a particular issue, either to an influence of published poll results on individual opinions, for example on voting intentions. Both journalists (n=8) and politicians (n=6) expressed such concern about influence on the public, both in articles about electoral polls (n=9) and polls about a general issue (n=7). But the overall small numbers of these statements should be noted.

2.4.5.6. Public's will

A final type of poll interpretations in the news considered was the degree to which poll results were explicitly interpreted in terms of the 'will' of the public. This can give an indication of the degree to which newspapers stress the weight of citizen's opinions in democratic decision-making, and hence of the assumption that polls, as 'the will of the majority', are important for decision-makers to take into account (Suhonen, 2001, p. 325). Therefore, explicit statements in the poll-dominant articles (n=1359) about the will of the public were registered. Similar to the limited articles mentioning poll effects on the public, Table 2-15 shows that poll results were rarely used in the explicit terms of the 'will' of the public. If this was found, the public's will was formulated either in a positive way, for example as support for a particular bill or viewpoint (4%, n=50), either in a negative way (2%, n=32), for example as contrasted with the work of policy-makers. In the latter case, it was often referred to a 'gap' between ordinary citizens, of which the 'will' is expressed by poll results on the one hand and politics on the other hand (in Dutch often referred to as 'de Wetstraat', which stands for the national parliament and government).

2.4.5.7. Summary

Overall, the Flemish newspapers focused most frequently on an 'informative' dissemination of raw poll results, with a limited number of interpretations and analyses of the results. This was not in line with the expectations based on the news criterion of meaningfulness, which recommends to attribute meaningful interpretations to poll results published (RQ3c). But based on the poll-dominant articles, it was observed that the newspapers used more interpretations, and hence published poll news in a more subjective way during electoral years and pre-electoral months, as well as regarding electoral polls. Moreover, newspaper articles about media-polls, and in particular polls from the publishing newspaper, contained more interpretations than reports about polls from other sources. This implies that the commissioning and/or conducting of polls by the media generate poll articles in which the media interpret and analyze the poll results extensively. Furthermore, the newspapers occasionally claimed influence *on* the poll results from political, general and media factors, as well as influence *from* the polls published on politics, policy and, to a lesser extent on the public.

It should be noted that these findings were based on the poll-dominant articles, which attributed at least 60 percent of the article text to opinion polls. In addition to these poll-dominant articles (n=1359), the articles that were selected but not content analyzed (n=1385) referred less prominently to polls (less than 60% of the article text), but could be used in other subjective news stories, for example to support or contrast a particular viewpoint. Therefore, the manufacturing of subjective news stories based on poll results may be larger than is suggested by the results presented.

2.4.6. Continuous news by comparing polls

Finally, a last set of expectations (RQ3d) studied is related to the news criterion of continuity, which suggests that media wish to select news that follows upon previous news stories, so that 'artificial' continuities can be created (Galtung & Ruge, 1965; Broh, 1980; Crespi, 1980). Opinion polls can be very easily used to this end, namely by comparing the poll results and reporting upon the differences obtained. Therefore, it is first studied to what degree the Flemish newspapers use poll comparisons in their news (number, baselines and interpretations), after which differences in this use of poll comparisons are studied between the years, between electoral and general poll news and according to the media-involvement in the polls.

2.4.6.1. Use of poll comparisons

In order to study the degree to which newspapers use comparisons of poll results in their news, dummy-variables were used to register the presence in the poll-dominant articles (n=1359) of poll comparisons with other polls, or with the actual election results. If polls were compared amongst each other, two specific characteristics of the comparison were additionally registered, namely the time and source (de Boer, 1995, p. 94). Regarding the time of the comparison, it was coded whether the results of a poll were compared with a recent poll (published at similar moment), a past poll (published at previous occasion), or with both time moments simultaneously. Regarding the source of the comparison, it was classified whether the results of a poll were compared with a poll from an identical pollster, a different pollster, or with both poll-sources simultaneously. Based on these characteristics, the most frequently used baselines to compare polls with are presented in Table 2-16.

Table 2-16: Summary of poll comparisons, based on percentage (number) of poll-dominant articles (n=1359) between 2000 and 2006

	2000-2006 (n=1359)	
Poll comparisons	%	(n)
Presence		
No comparison	69.32	(942)
At least one comparison	30.68	(417)
Time		
With past poll	21.12	(287)
With recent poll	7.21	(98)
Both	2.35	(32)
Source		
With identical pollster	19.35	(263)
With different pollster	8.68	(118)
Both	2.65	(36)
Reasons		
Opinion change	20.75	(282)
Opinion stability	5.08	(69)
Confirm trend	7.87	(107)
Contrast trend	0.96	(13)
Prove accuracy	0.59	(8)
Prove inaccuracy	1.55	(21)
"Snapshot"	4.27	(58)

It was found that in 45.33 percent of the poll-dominant articles publicized in the period between 2000 and 2006, the poll results were compared with other polls (in 30.68% of the poll articles) and/or with the election outcome (22.60%; not shown in table). Although, a large number of poll articles did not contain any comparison with different

polls (69.32%), Table 2-16 shows that if poll results were compared with each other, they were mostly compared to a past poll (published on a previous occasion). This indicates that particularly longitudinal comparisons were used between poll results. In this way, opinion change might be overemphasized (Broh, 1980; Crespi, 1980). Although particularly poll results from different time points were compared, the polls were most often conducted by an identical pollster, rather than a different pollster. This could perhaps reduce the possibility that changes in poll results found were due to methodological poll differences, though it should be stressed that limited methodological aspects were disclosed in the articles (cf. Subsection 2.4.4.1), so that little was known about the actual methodological differences which could account for the differences in the poll results found (e.g. different method used, different question wordings).

In order to study how the outcomes of the poll comparisons were interpreted in the newspaper, it was derived from the poll-dominant articles and registered by dummy-variables whether the following interpretations were present in an article (based on Smith and Verall, 1985): poll results were compared to show change or stability in opinions; results of a comparison were explicitly interpreted in terms of confirmation or contrast of a 'trend'; results were used to prove a poll's methodological accuracy or inaccuracy. Because an article could contain more than one of these reasons, the above mentioned aspects were coded as dummy-variables, whether or not they were present in a newspaper article. Table 2-16 shows that most of the articles containing at least one poll comparison interpreted the results as opinion change (21% of poll-dominant articles; 68% of articles with at least one poll comparison), followed by a confirmation of a trend (8% of poll-dominant articles; 26% of articles with at least one poll comparison), but the other interpretations were only very rarely observed.

2.4.6.2. Differences between years

Because it may be expected that more poll comparisons would be used over the recent years, the presence of at least on poll comparison in an article was sub-grouped by the years under consideration (2000-2006). This revealed significant differences between the years (Chi^2 (df=3)=20.08; p=0.0002), though no increase was observed. Instead, it was found that in the years with local elections, significantly lower percentages of articles contained at least one poll comparison (2000: 22%, n=27; 2006: 27%), relative to the year of 2004, in which regional elections were held (38%) and the non-electoral year of 2002 (34%, n=65). However, the small number within some of these subgroups should

be stressed. Differences between electoral and general poll news are further inspected in the following section.

2.4.6.3. Differences between electoral and general poll news

As Brettschneider (1997, p. 260) observed in Germany that the closer to elections, the more pre-electoral poll comparisons were used, differences in the use of poll comparisons were tested between electoral and general poll news, based on the publication date (during the last three pre-electoral months or not) and the poll subject (electoral, general, combined). However, no significant differences were found in the use of at least one poll comparison whether the articles were published during the last three pre-electoral months in electoral years or during other months of those years (Chi^2 (df=1)=1.60; p=0.2063). This is not in line with Brettschneider's (1997, p. 260) observation. But, regarding the poll subject, it was observed that significantly (Chi^2 (df=2)=30.21; p<.0001) more articles about electoral polls (38%) contained at least one poll comparison, than articles about polls on a general issue (23%). This could suggest that the Flemish newspapers especially publish follow-up news based on the results of electoral polls.

2.4.6.4. Differences according to media-involvement

Additionally, the use of comparisons was tested according to the media-involvement in the polls published. However, no significant differences were found in the use of at least one poll comparison whether the article reported a media-poll or a poll from another source (Chi^2 (df=1)=2.55; p=0.1105). But, the articles about polls in which the newspaper itself (or a newspaper of the same press house) was involved in the poll contained significantly (Chi^2 (df=1)=9.38; p=0.0022) less often a poll comparison (26%) than the articles about other media-polls (39%).

2.4.6.5. Snapshot

Finally, as an additional indication of the newspaper's stress on continuity in poll news, statements that explicitly referred to a poll as a momentarily "snapshot" were registered. However, this was only found in 4 percent (n=58) of the poll-dominant articles.

2.4.6.6. Summary

Based on the news criterion of continuity, the use of poll comparisons was studied in this section, because this may contribute to a particular image of public opinion that is published in the news based on poll results (RQ3d). It was found that if polls were compared with each other, they were most frequently compared longitudinally with other

polls from identical pollsters, but conducted at a previous occasion. Although no significant increase could be observed in the use of poll comparisons over time, polls seemed to be more frequently compared in articles about electoral poll subjects than general poll subjects. In this way, electoral poll results might be used to create artificial continuities. Moreover, poll comparisons were most frequently interpreted in terms of change, rather than stability. This may contribute to a representation of a continuously changing collective opinion.

2.5. Discussion and conclusion about poll news

Using historical insights (of Subsection 2.1), the interrelation between news media and opinion polls, as well as the media-manufacturing of poll news due to tensions between news criteria and poll characteristics were empirically studied for the current situation in Flanders, through a content analysis of newspaper articles published between 2000 and 2006. This section summarizes the main conclusions and discusses the results obtained.

2.5.1. Relationship between news media and opinion polls

As could be expected on the basis of worldwide rising trends in the media-attention to poll news (Miller & Hurd, 1982; Ladd & Benson, 1992; Brettschneider, 1997; de Boer, 1995), the absolute number of poll articles published in the daily newspapers has recently increased in Flanders, from 227 poll-related articles in 2000 to 1473 articles in 2006. This supports the expectation of the first research question about media-attention (RQ1). However, only the absolute number of poll articles was taken into consideration, due to a lack of information about the size of the newspapers to control for. Furthermore, it was found that the proportional amount of text contributed to polls within the articles remained quite stable over time. More specifically, it was found that if polls were used in news articles, they were not merely cited in the margin of the news stories, but they were very frequently treated as the dominant subject, though a limited number of them were placed on the front page of the newspaper. Furthermore, it was found that while most of the unique polls did not make it on the media-agenda because of their low visibility in the news, some opinion polls were very visible in different newspapers over a longer period of time.

The impression that media attribute great significance to poll news is reinforced by the observation that media were most frequently mentioned as the commissioners, or more

generally as the pollsters of the polls reported. This observation supports the expectation of the second research question about media-involvement in the polls published (RQ2). But no over-time increase in the media-involvement between 2000 and 2006 was observed. It seems that news media not only wish to use external poll results, but also want to select the poll topics (e.g. current affairs), the group of respondents (e.g. Flemish, Belgians), and the poll timing (e.g. close to elections). In this way, media not only select, but may also manufacture poll news. This manufacturing role of the media was further analyzed, based on tensions between news criteria (frequency, unambiguity, meaningfulness, continuity) and poll characteristics (RQ3).

2.5.2. Publishing recent poll news

Because of the news criterion of frequency it could be expected that the newspapers would rely daily on opinion polls of which the polling procedure could deliver quickly new poll results (RQ3a). The empirical data seem to support this expectation, since in 2006 almost five poll articles were published per day, of which the poll fieldwork was occasionally very short (even one day) and the poll mode implemented was increasingly online. Furthermore, it was observed that the newspapers wish to publish *timely* and politically-relevant poll news, because the publication of polls varied throughout the year with a peak in the number of poll articles published in the last month(s) before a political election. This finding confirms previous empirical research concerning the intensifying of poll news during election times in other countries (Andersen, 2000, p. 288; Brettschneider, 1997, pp. 252-254; Smith & Verall, 1985, p. 65). More specifically, it was found that during such pre-electoral times, the Flemish newspapers especially reported upon electoral-related polls, whereas during non-electoral periods more polls about a general issue were frequently used as news. Furthermore, the media were significantly more often involved in electoral polls than other sources. These findings suggest that the newspapers attribute different significance to different kind of polls at different occasions.

2.5.3. Poor formal quality of media-publications about polls

Based on the news criterion of unambiguity, it was expected that newspapers would report poll results in an unambiguous or straightforward way, rather than stressing methodological limitations of the poll results (RQ3b). Indeed, although an absolute increase was found in the poll publications between 2000 and 2006, this did not go hand in hand with a similar increase in the quantity of methodological poll information disclosed. In contrast, the amount of information about a poll's methodology disclosed in the

Flemish newspaper articles was quite limited. Although the international guidelines of various survey research organizations (e.g. ESOMAR/WAPOR) recommend on average seven methodological elements to be disclosed as minimal information in media reports about polls, the average number of explicitly mentioned aspects of the poll's methodology remained low in the Flemish newspapers (between 0.7 and 2.2 per article). Moreover, the methodological disclosure tended to decline in the period studied. These findings are consistent with previous research in which it was observed that the public is more reassured than alerted about the reliability of polls because of a general lack of poll criticism in the media (Paletz et al., 1980, pp. 503-504; Andersen, 2000). Indeed, the growing proportion of articles observed without any evaluative poll judgment suggests that poll results were used in quite an uncritical way by the Flemish newspapers. But when a poll was methodologically judged (on average in 31% of the poll articles), it was rather depicted as an unreliable than as a reliable method of measuring the opinions in the public. The most negative statements were found for the electoral type of polls, mainly expressed by external commentators such as academics or politicians.

It should be noted that the methodological guidelines used to assess the methodological disclosure in the Flemish newspaper articles 'stipulate only what information *ought* to be provided; they do not exhaust the range of information that *can* be provided' (Smith & Verall, 1985, p. 68). Moreover, the present study focused mainly on the presence of methodological information, which does not necessarily imply that the information disclosed was also adequate, compared to a survey methodology standard (de Boer, 1995). Finally, as Andersen (2000, p. 286) contends, there are no consequences if news media fail to disclose accurate information on opinion polls. For example, in Belgium a law prescribes accurate methodological disclosure in poll reports (cf. Subsection 2.1), but this has never been monitored. In particular, the current increase in Internet-related polling and subsequent news reports about them make it even more important to closely monitor the way in which news media report upon polls and their methodology. Indeed, distinguishing between (non)-representative traditional polls and (non)-representative online polls becomes even harder if little methodological information or critical assessments are published in poll reports. Therefore, high-quality reporting of opinion polls with either high or low methodological quality is necessary (Kim & Weaver, 2001, p. 83). Only then can published poll results be evaluated accurately.

Though, the question can be asked what the effect on the public would be if all relevant methodological information is provided. Indeed, it may be a rather naïve thought that the

reader will take into account the quality of opinion polls in drawing conclusions from poll data and in forming individual opinions. This implies a critical, good-informed reader who integrates only accurate information in his or her opinions. However, the provision of methodological information does not necessarily mean that people can interpret the more technical details such as sampling or weighting procedures. For example, Lavrakas et al. (1991) found that people were not able to correctly interpret the margin-or-error of an opinion poll, which is however a typical term used in poll publications. The media's responsibility however is to correctly interpret poll results and thus inform the public about methodological deficiencies when polls are conducted which do not conform to methodological standards. Indeed, if polls can influence opinions regardless of the poll reliability, it is important for journalists to be accurate and have a critical standpoint on the poll methodology. On the one hand, it could be argued that poll results should always be accompanied by a methodological note that emphasizes the limitations and possible errors. On the other hand, it could be argued that polls which do not conform to methodological standards should not be reported at all. Then, the list of methodological aspects to disclose or the inclusion of critical assessments is not necessary at all. But to this end, journalists should be able to assess the polls. In line with Meyer's 'Precision Journalism' (1973), Noelle-Neumann recommended already in 1980 that journalists should be better educated in the field of empirical survey research to improve methodological news reports of opinion polls (Noelle-Neumann, 1980). Almost 20 years later, Brettschneider criticized journalists again for their insufficient knowledge of the polls' methodology and the insufficient transparency of pollsters (Brettschneider, 1997, p. 263). Similarly, in 2008, Traugott (2008, p. 233) again emphasized that there is a journalistic lack of training in survey methods and that a good understanding of statistical concepts is required. The current observation in Flemish newspapers that essential methodological aspects (such as the poll method) are poorly disclosed and that evaluative poll judgments are rarely expressed reinforces once again the demand for a better journalistic education in opinion research.

2.5.4. Media-manufactured interpretation of polls

Based on the news criterion of meaningfulness, it was expected that newspapers would include interpretations of the poll results in their news reports, rather than disseminate the poll percentages in a raw, or merely informative way (RQ3c). However, it was observed that the focus of Flemish newspapers was mostly on an informative dissemination of raw poll results with limited interpretations. Interpretations and analyses of the poll results

were present in the newspaper articles, but not in a dominant way. Thus, the suggestion that the degree of interpretative poll news has recently become more important (Rosenstiel, 2005) has to put into perspective for Flanders since no substantial increase in the use of interpretations in poll articles could be observed over time, though only poll-dominant articles were taken into consideration. However, it was found that the average included interpretations was especially higher in news reports about electoral polls, during pre-electoral months, as well as in reports about media-polls, particularly if the publishing newspaper (or a paper of the same press house) organized the poll itself. Furthermore, by interpreting poll results in terms of causes and implications, as well as by claiming poll effects, a particular image of collective opinion can be created by the news media. In particular the perceived influence on polls and from polls disclosed in the newspaper articles may reinforce the relevance that is attributed to polls in relationship to public and politics.

Finally, based on the news criterion of continuity, it was expected that news media would use poll comparisons in their news reports, so that eventually artificial continuities could be created (RQ3d). Indeed, it was observed that in almost half of the poll articles, poll results were compared with other polls or with the election outcome. If polls were compared amongst each other, they were most often compared with a poll from an identical pollster, conducted at a previous point in time. In this way, each new poll can become *news* because it contrasts or confirms previous poll results, so that a continuously changing 'public opinion' may be stressed (Broh, 1980). Especially electoral polls were compared, which could create artificial continuities and a continuous quasi-election (Brettschneider, 1997, p. 253; Crespi, 1980, pp. 465-466). Such continuities could be reinforced, because comparisons were most frequently interpreted in terms of change and support of a 'trend'.

2.5.5. Limitations of the newspaper analysis

A number of limitations of the present newspaper analysis can be mentioned. First of all, an important limitation of the present content analysis was the inclusion of mere newspaper articles, which may restrict the generalization of the findings to other news media outlets, such as television, other print magazines, radio and news Websites. The main reason for this was pragmatic, due to the availability of newspaper articles in the online press database *Mediargus*. This limitation is taken into consideration in Chapter 8 of Part II where in addition to newspaper articles about polls also television news items

were analyzed. Another limitation of the data collection is the limited time period of six recent years, which should be extended in order to draw conclusions about over-time trends in the reporting of polls. Furthermore, the selection of years could potentially include particular events, such as some polls that received particularly much media-attention (e.g. 'Largest Neighbourhood Survey' before the communal elections of 2006).

The unit of analysis in this study were the newspaper articles. It could be recommended to take additionally into account the 'higher' level of the newspaper titles, which de Boer (1995) did in her analysis. In particular for the disclosure of methodological aspects in newspaper articles, the analysis was performed not only at the article-level, but also at the newspaper-level, because an article that contains all methodological details about a poll could be present in a newspaper, while not each article about that poll at that day may repeat the methodological aspects. However, the results did not differ much compared with when the article was used as the unit of analysis. Another possibility might be to perform analyses at a 'lower' unit-level, such as on the basis of sentences or paragraphs, in order to say more about the use of a particular discourse by the news media. However, for the purpose of the study, the newspaper article as a whole was considered the most appropriate and most meaningful object of study (Krippendorff, 1980; 2004). Within the total number of newspaper articles, it was decided to content analyze only those which dominantly focused on opinion polls (of which at least 60 percent of the article text referred to polls). A limitation of this is that other articles which focused less prominently on polls in the text might also contain general evaluative statements about polls, but were not further analyzed due to this selection.

Although the online press database *Mediargus* was used to collect the newspaper articles, no computer program was used to code these articles. The use of such a computer program could increase the speed with which news reports can be coded, and hence the amount of news reports that can be processed. On the one hand, the use of a computer program to code the data may increase the reliability, as no human decisions are taken. On the other hand, computers can only scan articles for predetermined words, but they cannot really 'read' the text or understand it as humans do (Krippendorff, 2004, pp. 258-259). Regarding the reliability, a stronger type than intercoder agreement (which was tested in the present analysis) is accuracy of the data to a standard that is known to be correct. However, this type of reliability is very difficult to test in reality, as no standard can be generally used. Therefore, the intercoder agreement, which showed fairly good reliability of the data, is the most feasible type of reliability to be tested. Moreover, the use

of different indices, namely the Cohen's Kappa and Krippendorff's alpha enabled to be more certain about the intercoder agreement. However, as Krippendorff (1980, p. 129) notes: 'reliability does not guarantee the validity of research results'. It was contributed to a higher degree of validity by the use of a standardized coding instrument, of which most indicators were based on previous empirical research on the matter. In the presentation of the results, comparisons were disclosed with similar research conducted in other countries.

Finally, it should be noted that in the present study, no 'input analysis' of the newspaper articles was performed. In other words, the original source of the information disclosed in the articles was not studied. Therefore, no distinction could be made between what information was provided by the pollsters and how it was interpreted by the journalists. Such an analysis could be an avenue for further research, as it could complement the present findings with more detailed information about the actual manufacturing role of the news media. Another recommendation for further analysis is the use of framing theory to explore whether news media use particular frames in the interpretation and presentation of poll results. This could give additional information about the exact content that is disseminated by the news media, as well as the tone with which poll results are published (Scheufele & Tewksbury, 2007; Iyengar & Kinder, 1987; Kinder & Sanders, 1990; Chong & Druckman, 2007).

This empirical analysis assessed the visibility of opinion polls in the Flemish newspapers, as well as the way in which these newspapers report on them. This information was necessary because it was lacking for Flanders, and because it provided information about poll publications that needed to be collected before it can be investigated whether and to what degree opinion polls published by the Flemish news media affect the opinions in the public (Brettschneider, 1997, p. 249). This is investigated in Chapters 6, 7 and 8 of Part II.

Chapter 3.
Theoretical Framework: Individual Opinion Formation & Role of the Media

This third chapter about interrelationships between news media, polls and opinion presents the theoretical framework of individual opinion formation and the role of the media in this opinion formation and change. It follows Chapter 2 in which the interrelationship between news media and opinion polls was studied, and precedes Chapter 4 in which the interrelationship between the poll's methodology and public opinion is discussed.

In the previous Chapter (2), an intertwined relationship between news media and opinion polls has been empirically observed for Flanders, based on content analyzed press articles. It was found that Flemish newspapers frequently publish news about opinion polls, in which the news media were often involved as commissioners or sponsors. This indicates a close relationship between news media and opinion polls that may have effects on people's opinions. On the one hand, effects can arise from the way in which opinion polls are implemented. Chapter 4 delves further into this influence from methodology. On the other hand, effects can occur from poll publications in the news media on individual opinions. These media-effects are empirically investigated in Chapters 6, 7 and 8 of Part II.

In order to study respectively these effects from the implemented methodology on poll results and effects from poll publications on opinions, the theoretical framework is based on perspectives about individual opinion formation and expression in a survey context. These perspectives on individual opinions have implications for the role that the media can play in individual opinion formation and change due to published poll information, as well as for the degree to which poll results used by the media in their poll publications may be influenced by the implemented poll methodology. Because media are considered

the main independent variable in the empirical effects-study from poll publications on individual opinions in Part II, the discussion of theoretical perspectives about the formation and expression of individual opinions (dependent variable) is followed by the role that the media can play herein (independent variable). Additionally, differential effects of the media on opinions, due to individual and contextual characteristics (moderators), as well as indirect effects from media on individual opinions through perceptions of collective opinion (mediator) are successively discussed.

3.1. Perspectives on the formation and expression of individual opinions

Studying potential influence of media and methodology on opinions presupposes that opinions might change due to information, whether from news publications about polls or the provision of information within a poll context. In order to examine the potential impact that media-publications about opinion polls may have on the formation of individual opinions, and the influence a poll's methodology may have on the poll results obtained, theoretical perspectives on the formation and expression of individual opinions are discussed. The main questions to be addressed are the following: what are individual opinions? How are they organized and formed? And once they are formed, how are they expressed as an opinion response to a poll question? Before different theoretical perspectives on opinion formation and expression are discussed, the term 'opinion' is generally defined, as well as its relationship with attitudes.

3.1.1. General definition of an individual opinion

An early conception of the term opinion which has become the most prominent one is defining an opinion as a judgmental cognitive state, which can epistemologically be distinguished from a fact. In contrast to facts, however, opinions can mostly not be verified, in terms of testing it against an external 'truth' (Price, 1992, p. 6). Thus, an individual opinion can be defined as the expression of a personal belief or an evaluative judgment on a specific object (which might be an object, issue or person). Basic characteristic of opinions include direction or tendency (positive, balanced or negative), as well as opinion intensity or strength (strongly, moderately or weakly held) (Krosnick & Abelson, 1992, p. 178; Schuman & Presser, 1981).

Closely related to the concept of opinion is the concept of attitude. Although both are often used interchangeably because of their high degree of mutual interaction (Hovland, 1953, p. 7), they can at least theoretically be distinguished (Butler, 2007). For example, Thurstone (1928) considers an attitude as a subjective or personal mental state which comprises all feelings, ideas, and preconceived notions people can have about issues (Thurstone, 1928, p. 529). Similar definitions of attitudes can be found in the works of authors like Katz (1960, p. 168) and Ajzen (2001, p. 28) who consider an attitude as the sum of personal evaluations of an object, captured in attribute dimensions such as favourable-unfavourable. Typically, an attitude is regarded as composed of three major components, namely a cognitive component, which comprises the individual's knowledge and thoughts, an affective component, which comprises the individual's evaluations based on emotions, and a conative component, which refers to behavioural intentions (Shiraev & Sobel, 2006, pp. 68-69; Suedfeld, 2007, pp. 3-4).

Although attitudes are not directly observable, they can be measured by surveying people's opinions or by inferring them from actual behaviour. Accordingly, the notion of opinion can be considered as the verbal expression of a particular aspect of attitudes (Thurstone, 1928, p. 529; Katz, 1960, p. 168), or in the words of Hovland (1953, p. 7) opinions are, contrary to attitudes, 'verbalizable'. However, opinions differ from attitudes not only in their degree of 'verbalizability', but also in their degree of generality. Attitudes typically comprise a whole set of general evaluative ideas, while opinions are mostly quite specific judgments about a particular object. Furthermore, attitudes are generally linked to broader underlying structures, such as beliefs, which form cognitive relationships between objects, or values, which refer to enduring preferences for a specific behaviour or goal (Shiraev & Sobel, 2006, pp. 70-72). Because of this general underlying structure, attitudes are considered to be more stable than opinions, which do not necessarily have such an underlying organization of ideas (Butler, 2007).

The next sections present different theoretical perspectives that explain the formation of individual opinions and their expression in the form of poll responses. For each perspective, its implications for possible opinion change due to published information, such as opinion polls is discussed. Successively, Converse's idea of 'nonattitudes' (1964) is presented, the measurement error-thesis of Achen (1975), the cognitive psychological approach of opinions (Tourangeau, Rips & Rasinski, 2000) and Zaller's (1992) temporary opinion constructions.

3.1.2. The nonattitudes-thesis on opinions

If theoretical perspectives about individual opinions are positioned on a continuum, those perspectives about real and pre-existing opinions that are easily retrievable by poll questions would be positioned at one end of this continuum, while those perspectives which consider opinions as merely random poll responses would be situated at the opposite extreme end. One of the most influential scholars who takes the latter extreme perspective on the formation and expression of opinions is Converse (1964). He considers individual opinions as meaningless expressions or 'nonattitudes', of which the direction is merely determined by chance, comparable to 'flipping a coin'. Converse argues that the largest segment of the population (the mass public) expresses such completely random responses to opinion poll questions, whereas only a small group of people (the elite) holds well-crystallized and perfectly stable opinions. Because of Converse's dichotomy between the mass having no opinion at all and a small group of 'elite' having stable opinions, his theory is labelled as the 'black and white'-model (Converse, 1964, pp. 238-245).

3.1.2.1. Political sophistication

To divide the public in a mass with nonattitudes and an elite with stable opinions, Converse (1964) used the concept of *political sophistication*, which he conceived as the individual degree of 'conceptualization', or the personal ability to conceptualize the political system with its actors and events. Based on a survey of voter opinions on ideological issues about the 1952 Presidential election, Converse divided the American electorate initially into five types or 'strata' with different levels of political sophistication or conceptualization. As the first, or 'top level' of political conceptualization, Converse considered those respondents who were able to use an abstract conceptual dimension to evaluate politics. Therefore, he labelled them as 'ideologue'. As the second level of political conceptualization, he referred to the 'near ideologue' who also adopted an abstract dimension when evaluating the political world, but who did not use it in a central way or did not fully understand the deeper meaning of the concept. As the third stratum, Converse considered those respondents who were not able to use any comprehensive dimension in evaluating politics. Instead, these respondents primarily judged political candidates according to their actions towards social groupings in society, which is why they were labeled as 'group interest'. As the fourth level of political conceptualization, Converse defined those respondents who used some political considerations, but often based their political assessments on an association between political candidates and the

general state of society or current socio-economic conditions. Therefore, this stratum was called the 'nature of times'. Finally, as the fifth level of political conceptualization were considered those respondents who did not use any politically relevant notion when asked to evaluate politics. Because they were characterized by a general disinterest in political parties or did merely show attention to personal qualities of candidates, they were defined as 'no issue content' (Converse, 1964, pp. 215-218).

Converse classified less than 10 percent of the respondents into the two top levels of political sophistication, who made their political decisions using coherent abstract thinking or (near-) ideology. In contrast, he classified more than 90 percent of the respondents into the three lower levels of political sophistication, who showed no clear, coherent and abstract understanding of political issues. Accordingly, based on whether people used abstract conceptualization in evaluating politics, Converse divided the five strata in two broader groups, namely a small 'elite' group of people holding coherent opinions (two top levels of political sophistication) and the 'mass public' whose opinions are characterized by fragmentation and randomness (three lowest levels of political sophistication). He contends that only the small group of politically-sophisticated citizens, who are typically highly-educated and strongly involved in politics, are able to understand contextual information and relate it to other, previously stored information and personal interests. The mass public, on the other hand, would lack such underlying opinion coherence (Converse, 1964, pp. 215-218; 246-247).

3.1.2.2. Opinion change according to Converse (1964)

Converse's theory of non-attitudes has implications for the potential occurrence of opinion change. His dichotomized or 'black and white'-model, which divides the public in two groups based on the use of political sophistication in the formation of individual opinions assumes that 'real' opinion change will neither occur among the elite, nor among the mass. According to this theory, the small group of elite persons who have politically consistent opinions is expected not to change their opinion easily, and if they would change it, this would be in line with their prior ideological opinions. Therefore, this group of people is assumed to be reinforced in their opinions by media-messages, such as poll publications, rather than be swayed by them. Furthermore, their opinion responses will probably not be affected by small changes in the poll context, and hence will show a fairly high degree of opinion stability.

The mass or the largest segment of the public, on the other hand, is also assumed not to be very susceptible to media-effects. Indeed, Converse views them as uninformed and lacking any consistent underlying ideology, so that they may not be able to integrate new information, such as from polls, meaningfully in their opinion. However, although no real opinion change can occur in the mass according to Converse, he suggests that the rather idiosyncratic configuration of political beliefs by the less politically sophisticated people can make their answers to opinion questions 'extremely labile over time'. This implies that if a question is not worded in a way that particular clues related to political parties or social groups are recognized, quite 'capricious constructions' might be expressed as 'opinions' by the less sophisticated people. According to Converse, it is very likely that at the moment of being interviewed, these respondents have to think for the first time about a specific issue they previously never thought about. As a result, he suggests that 'nonattitudes' may be expressed. Thus, defining opinions of the mass public as lacking any abstract conceptualization, and hence as merely random poll responses implies that the largest group in the public would show a lot of over-time response instability, which, according to Converse, does not follow any meaningful structure.

Although at a certain point in his work, Converse acknowledged the potential existence of a third group of people who changes from one 'real' opinion to another, he disregards them in the further development of his theory on nonattitudes. His main argument for this is that he was able to predict opinions of a third survey moment similarly on the basis of opinion data from the first or the second survey moment, which would not be possible in the case of substantial opinion change between the survey moments (Converse, 1964, pp. 215-218; 238-245).

3.1.3. The measurement error-thesis on opinions

Achen (1975) was one of the first who challenged Converse's idea that a lack of response stability between survey moments is an indication of total randomness in opinion poll responses. Whereas Converse interpreted his observation of similar correlations between the opinion responses at three different survey moments as a lack of underlying opinions, Achen interprets this as a result of error in measuring people's pre-existing and stable opinions.

3.1.3.1. Inaccurate measurement

Achen's (1975) conception of opinions as real and fairly stable judgments is completely the opposite of Converse's idea of nonattitudes. Whereas Converse stipulates that the mass public expresses merely random responses lacking any underlying opinion structure, Achen contends that people have genuine opinions, but that their responses expressed in surveys may fluctuate over time due to the vagueness and ambiguity of survey questions. Thus, Achen views measurement error as the main cause of variability in poll responses, because a polling instrument measures the really-existing opinions inaccurately. Therefore, he primarily attributes response instability to flawed instruments (measurement error), rather than to characteristics of respondents, whereas Converse considered such respondent characteristics as the main cause of instability, and especially the low degree of political sophistication or abstract ideological conceptualization. In contrast, Achen argues that a clear distinction should be made between the variability of underlying belief elements, which refers to real opinion change, and the variability due to the opinion questions, which refers to measurement error (Achen, 1975, pp. 1218-1229).

3.1.3.2. Opinion change according to Achen (1975)

In Achen's viewpoint, an opinion is 'not a single point, but rather a distribution of points around some central position'. This implies that 'even perfectly stable respondents will appear to be inconsistent' when vague survey questions are asked (Achen, 1975, pp. 1218-1229). But, whereas Converse attributed response instability to a lack of any underlying structure in the mass public, Achen interprets this as mere error because of vague survey questions.

In his studies, Achen observed that only very few respondents held no opinion about a particular issue over a longer period of time, and thus found no support for a mass public expressing merely nonattitudes. Moreover, he did not find substantial differences among subgroups in the population concerning the perceived vagueness of survey questions. Therefore, Achen suggested that basically everyone has genuine and stable opinions, but that they may show instability due to inaccurate measurement. Apart from this measurement error, Achen's conception of pre-existing individual opinions implies that opinions may change in a meaningful way due to new information.

3.1.4. Cognitive-psychological approach of opinions

Similar to Achen's conception of real and pre-existing opinions that may be inaccurately measured by polls is the cognitive-psychological approach of defining opinions. In this approach, the formation of opinions and the expression of answers to poll questions are understood as parts of a cognitive process in which pieces of information are stored in memory and retrieved by surveying. These pieces of information are considered as organized and interrelated in a broader 'semantic, associative network', which comprises both cognition (knowledge) and affect (emotions, liking). By processing information, the cognition, affect, or the interrelation between them may be influenced (Van der Veld & Saris, 2004, pp. 38-42).

3.1.4.1. Information processing

The cognitive-psychological viewpoint on opinions mainly conceives opinion formation and expression as a result of processing information. In such information processing models, it is suggested that respondents formulate answers to poll questions based on real, pre-existing opinions. The most basic question-and-answer model consists of the following four steps: (1) the interpretation of a question, (2) the search for relevant information in the long-term memory, (3) the formation of a judgment and (4) the articulation of an answer (Tourangeau, Rips & Rasinski, 2000, pp. 7-16). Such a model is based on the assumption that opinions are judgmental evaluations that already existed in advance and are quite stable, so that an almost automatic activation of opinions is possible whenever people are surveyed. This assumption is closely related to the general presupposition of pollsters that respondents have a meaningful opinion about every possible issue, and that respondents are able to express this opinion in the form of an answer to poll questions.

However, this perspective on opinions has been heavily criticized because of its naivety, and has been countered by empirical findings about response instability over time, contextual or response effects and substantive question wording effects. Such empirical findings demonstrate the ease with which opinion poll answers can change, even in the case of very small information modifications (Billiet, 2003, pp. 13-14; Converse, 1964; Saris & Sniderman, 2004; Van der Veld & Saris, 2004; Zaller, 1992; Heerwegh, Billiet & Loosveldt, 2005). Consequently, the basic question-and-answer model has been modified over time and the fixed relationship in memory between an object and the related opinion about it is no longer assumed. Instead, cognitive psychologists suggest

that when respondents do not have any or at least no clear judgment about a particular issue, they follow one of the following three alternative answering paths when being surveyed: (1) people may fall back on general impressions and stereotypes, (2) they may use their ideological predispositions and general values, or (3) they may combine their general values with more specific feelings about the target object (Tourangeau et al., 2000, pp. 172-175).

3.1.4.2. Opinion change according to cognitive-psychologists

Although the most naïve cognitive-psychological approach on opinions has been modified, the conception of actual opinion dispositions on which poll responses are based has been maintained. This resembles Achen's conception of pre-existing and genuine opinions, and hence the possibility of real opinion changes due to information, such as from poll publications. However, whereas Achen recognized the possibility of measurement error when surveying opinions, in cognitive theories, response (in)stability is viewed as equal to opinion (in)stability, since no distinction is made between opinions and opinion responses.

3.1.5. Zaller's temporary opinion constructions

Empirical observations of question wording effects or mode effects indicate that opinion responses may be expressed differently due to small modifications in the poll context, while the underlying opinion might not have been genuinely changed (Van der Veld & Saris, 2004, p. 38). In line with such empirical observations, Zaller (1992) conceives opinions as temporary constructions which are created on the spot. His viewpoint on the formation and expression of individual opinions can be situated somewhere in between the perspectives of opinions as nonattitudes or completely random poll responses (Converse, 1964) on the one hand, and those perspectives of real, pre-existing and stable opinions, on the other hand, such as suggested by the measurement-error thesis (Achen, 1975), or the cognitive-psychological approach (Tourangeau et al., 2000).

Although Zaller's viewpoint on opinions is based on information processing models, he does not agree with the notion of a single, fixed opinion that is automatically activated by a survey question, as suggested by the traditional question-and-answer-model of cognitive psychologists. In contrast, Zaller suggests that people 'create' or 'construct' answers to opinion questions. He argues that there are no pre-existing 'true attitudes' revealed during an interview, but that opinions are formed on the spot, depending on

which ideas are made salient at the moment of being surveyed. Thus in this viewpoint, an opinion is conceived as an array of multiple autonomous and even conflicting considerations, rather than only one clear element. The prominence of particular considerations in the respondent's head at the moment of an interview then will determine what 'opinion' will be eventually expressed in a survey context (Zaller, 1992, pp. 30-40).

Although Zaller's conception of opinions as arrays of considerations implies that opinions do not consist of a single pre-existing judgment in memory, as suggested by Achen (1975) or Tourangeau et al. (2000), Zaller, however, does not follow Converse's (1964) notion of completely meaningless nonattitudes either. Rather than considering opinions as random expressions to poll questions, Zaller argues that different considerations will come salient to people due to differences in the poll context, such as changes in question wording or due to the external media-flow of communication (Zaller, 1992, p. 33). To explain this, he developed the RAS-model, which is subsequently described in more detail.

3.1.5.1. R(eceive)A(ccept)S(ample)-model

Zaller's RAS-model addresses both the formation of individual opinions and the expression of poll responses. It consists of four axioms. The first is the 'Reception axiom' (1), which states that the level of cognitive engagement with an issue influences the exposure to and the comprehension of political messages about that particular issue. The second is the 'Resistance axiom' (2), which refers to people's opposition to arguments that are inconsistent with their personal political predispositions. Such resistance can only occur if individuals possess the necessary information to establish a relevant link between the presented arguments and their own predispositions. The third assumption of the RAS-model concerns the 'Accessibility axiom' (3), which states that the ease of accessing a particular consideration from memory depends on the time between the last activation of this consideration and the moment it is brought to the top of people's head to use it, such as in a polling context. Finally, the fourth assertion is the 'Response axiom' (4), which suggests that people answer survey questions on the basis of some considerations that are salient or accessible to them at the moment of being surveyed (Zaller, 1992, pp. 42-52).

These four axioms of the RAS-model concurrently explain the formation of individual opinions and the expression of poll responses. The first two axioms of Zaller's RAS-model (1992), the Reception and Resistance axioms, refer to the way in which information

is acquired and implemented in the array of considerations which constitutes an individual opinion. The subsequent two axioms of Zaller's RAS-model, the Accessibility and Response axioms, on the other hand, refer to the way in which the acquired and implemented information is transformed into a survey response. More specifically, Zaller suggests that internalized considerations will be more or less accessible to retrieve them and 'average' across them to express a poll response (Zaller, 1992; Kriesi, 1999, pp. 18-19).

3.1.5.2. Opinion change according to Zaller (1992)

Zaller views an opinion as 'a marriage of information and predisposition: information to form a mental picture of the given issue, and predisposition to motivate some conclusion about it' (Zaller, 1992, p. 6). This viewpoint on how opinions are formed (based on Reception and Resistance axioms) and expressed (based on Accessibility and Response axioms) has implications for potential effects from media and methodology on opinions.

Zaller's RAS-model (1992) resembles the ideas of cognitive psychologists about information processing, since answers to opinion questions are conceived as the result of a process in which individuals receive new pieces of information, decide whether they accept them and select or sample between them when answering an opinion question (Zaller, 1992, pp. 42-52). In contrast, Zaller does not conceive opinions as pre-existing and stable, but regards them as constructs based on the considerations most salient at the moment of being polled. Due to this conception of temporarily constructed opinions, the saliency of particular considerations on which respondents base their response to a poll question at a particular moment may shift. Put differently, depending on which considerations are immediately accessible and salient at the time of an interview, people may construct a different answer (Zaller & Feldman, 1992, pp. 594-597). This saliency of considerations when responding to polls may be influenced by the direct poll context, such as the formulation of poll questions, as well as by the general political environment at a particular moment (Zaller, 1992, p. 190; 308). This implies that the news-media content, and in particular poll publications, may influence the array of considerations from which a response will be sampled (the formation of an opinion), but also what consideration is most salient to be expressed as a poll response (the expression of a response).

Furthermore, Zaller does not conceive response instability as merely measurement error (Achen, 1975), nor as a complete lack of underlying structured belief elements (Converse,

1964). Instead, Zaller considers a response to be created on the basis of an array of multiple, perhaps contradictory, but genuine considerations. Since questions of opinion surveys in general, and polls about policy issues in particular, are usually formulated as a general 'summary judgment', the respondent needs to make 'an aggregation of one's feelings across frequently diverse concerns'. This implies that most people may be quite inconsistent in their poll responses, especially when different aspects of the same issue are surveyed (Zaller & Feldman, 1992, pp. 609-610). However, although Zaller agrees with the measurement-error approach that questions are typically open to multiple interpretations and that the poll context may affect what considerations will come salient, Zaller interprets this as substantive ambivalence (due to an underlying inner conflict) or uncertainty (due to a lack of information), whereas Achen (1975) interprets response error as mere noise (Hill & Kriesi, 2001, pp. 397-398).

3.1.6. Integration of perspectives (Hill & Kriesi, 2001)

Although the nonattitudes-thesis (Converse, 1964), measurement-error thesis (Achen, 1975) and cognitive-psychological approach of opinions (Tourangeau et al., 2000) can be viewed as competing perspectives, they can also be regarded as complementary. For example, Saris (2004) attempted to bring Converse's and Achen's conceptions of opinions together in a more general judgment model in which the starting point was Zaller's viewpoint of opinions as arrays of considerations. In such an integrative viewpoint, the different models then can be regarded as specific cases that apply for specific groups of people (Saris, 2004, pp. 17-22). Similarly, the different viewpoints on opinions from Converse (nonattitudes), Zaller (temporary constructions) and Achen (pre-existing opinions inaccurately measured), were integrated by Hill and Kriesi (2001) in their empirical research about opinion holders, vacillating changers and durable changers. These three groups of people are presented in Table 3-1 with their implications for opinion stability or change due to new information, such as media-disseminated poll information, on the one hand, and for response (in)stability due to differences in the direct poll context, on the other hand. Thus, the former is especially related to potential media-impact on opinions, while the latter refers to possible influence of a poll's methodology on poll results. To distinguish between them, it should at least conceptually be distinguished between an opinion and a response. For example, Van der Veld and Saris (2004) defined an *opinion* as composed of (1) a set of stable considerations generally stored in memory, and (2) a set of unique considerations at a specific point in time, while a *response* comprises in addition to this opinion also measurement error (3). Such a distinction

between an opinion and a response makes it possible to differentiate between opinion stability and change on the one hand, and between response stability and instability on the other hand.

The three groups of people presented in Table 3-1, opinion holders, vacillating changers and durable changers, come from Hill and Kriesi's (2001) empirical research. Their study consisted of opinion data from a representative Swiss panel of respondents that was surveyed at four different time points (between 1993 and 1995) about six policy measures within the same issue-domain, namely environmental pollution caused by cars. Based on the individual response behaviour, the probability of belonging to one of the three groups (opinion holders, vacillating changers and durable changers) was tested for each individual. It was found that between 40 and 60 percent of the respondents were categorized as opinion holders, who expressed a substantive opinion response for or against an issue (not the 'no opinion' category) and maintained this opinion over time. Although they may have switched between the categories of mildly and strongly (dis)agree, they did not switch between the opposing response sides agree and disagree. This first group was categorized as the 'opinion holders', who were assumed to hold stable and crystallized opinions, embedded in an integrated belief system. This group refers to Converse's small elite group of people who show a high degree of response stability due to high levels of political sophistication in their opinions.

Most of the other respondents were categorized as vacillating changers, who expressed responses that moved back and forth between the different sides of the response options (agree and disagree), or between a substantive answer and the non-substantive 'no opinion'-category. However, their response pattern was not completely random, but reflected issue-specific characteristics, and hence showed a minimal structure. For example, the degree of ambivalence and uncertainty in the issues could account for the fluctuating changes in the responses observed. This second group was classified as the 'vacillating changers', who expressed opinion responses that may appear to be random but are in fact due to the differing saliency of particular considerations when answering an opinion question. This group refers to Zaller's viewpoint of opinions as temporary constructions created on the spot. Indeed, the observation that vacillating changers showed a minimal structure in their response pattern resembled Zaller's perspective of opinions as arrays of considerations susceptible to additional information, but contrasts with Converse's idea of random responses or nonattitudes.

Table 3-1: Integration of viewpoints on individual opinions, opinion (in)stability and response (in)stability due to media and methodology

Group	Conception of individual opinion	Opinion stability or change (e.g. due to media-information, such as poll publications)	Response stability or instability (e.g. due to differences in poll context)
Opinion holders (Hill & Kriesi, 2001; Converse's small elite group, 1964)	Strongly held, politically sophisticated (ideologically conceptualized)	No change of opinion direction (only between nuances of opinion strength), resistance based on political sophistication, awareness and predispositions	Stable responses, substantive answers, related to underlying opinion dispositions
Vacillating changers (Hill & Kriesi, 2001; Zaller, 1992)	Temporarily constructed, based on array of considerations, ambivalence & uncertainty	Meaningful short-term reactions, minimal structure in opinion change	Instable responses, substantive and non-substantive answer switches because of differences in poll context
Durable changers (Hill & Kriesi, 2001; Achen's measurement error, 1975; cognitive psychological approach of opinions by Tourangeau et al. 2000)	Weakly held, genuine opinion dispositions	Actual and meaningful opinion change	Instable responses, substantive answer switches and out of non-substantive category related to meaningful opinion change

That opinion responses expressed in a survey context are not completely random as Converse (1964) assumed is in line with empirical findings of various experiments with survey questions conducted by Schuman and Presser (1981). They found that respondents easily switch between answer categories, when it was rather implausible that the underlying opinion itself, regardless of how this is conceived (as true or created), actually changed. They also observed that when respondents were asked questions about unknown issues, their responses expressed were perhaps not 'informed' or thought through, but they were consistent over time and related to responses about other issues. This indicates that even in the case of 'nonobjects', real underlying dispositions can be elicited (Schuman & Presser, 1981, pp. 159-160). Thus, these empirical findings suggest that poll responses can show a minimal structure that is related to the questions asked. Accordingly, this implies that persons with unstable opinions may nevertheless express short-term reactions to external stimuli, such as media-information that is provided within the poll context.

Finally, only a very small percentage (between 2 and 8%) of the respondents were categorized as durable changers, who changed between response sides only once, or moved out of the 'no opinion'-category but did not change towards it. They were assumed to structure their opinions based on additional information or further consideration during the panel survey. Accordingly, they may have actually changed their opinion over time or formed their opinion for the first time. This group of genuine changers was neither recognized by Zaller, nor by Converse, but was implicitly acknowledged by the opinion conceptions of Achen (1975) and Tourangeau et al. (2000) who consider opinions to be real and meaningfully organized (Hill and Kriesi, 2001). Additionally, Hill and Kriesi tested Achen's measurement-error approach, on the basis of individual-level standard deviations in responses. They found that the average size of individual-level standard deviation in responses was so different for different people across the groups tested, that it was concluded that the variation observed was more likely to be a combination of both measurement error and opinion instability, than merely measurement error, which would be similar for all respondents.

Thus, the findings of Hill and Kriesi's empirical study largely support Converse's dichotomization of the public into a group of opinion holders and a group of vacillating changers. However, although the size of the third group of durable changers was quite small, statistical checks confirmed evidence for the existence of this third group of durable changers. Furthermore, the scholars observed that individual opinion formation and

expression tends to be more structured than Zaller assumed. For example, Hill and Kriesi found that the opinion holders opposed more frequently the more constraining measures (e.g. implied more costs for the individual), than the vacillating changers, whose opinions were less discriminating between constraining and unconstraining measures. Thus, whereas Zaller assumed that ambivalence in opinions is omnipresent, Hill and Kriesi (2001) observed that besides the ambivalent group of vacillating changers, there was a large group of people who hold stable and crystallized opinions over time, as well as a small group who meaningfully changed their opinion.

3.1.7. Summary

The integration of the different viewpoints on individual opinion formation using Hill and Kriesi's empirical research (2001) implies that if effects are investigated on opinions, only a small group of people can be expected to actually change their opinion due to new information, such as from opinion polls, and hold this changed opinion over time. It might indeed be rather naïve to suppose that everyone in the public will change its opinions according to information provided by, for example the media. Furthermore, the individual opinion conceptions suggested that there will always be a group of people that will not change its opinion due to new information, based on prior beliefs, political predispositions and high opinion strength. However, the perspectives on individual opinions also suggest that a large group of people may show changes in the opinion responses, but may not have actually changed their underlying opinion. But although their responses might seem to fluctuate a lot, they can be related to characteristics of the poll context and/or the general political environment. This suggests that both methodology and media can have an influence on the opinion. In the next section, the role of the media in individual opinion formation and change is considered.

3.2. Role of the media in individual opinion formation and change

Subsequent to the conceptualization of individual opinions, this section discusses the role that the media can play in this individual opinion formation and change, because in Part II of this dissertation, it is particularly focused on effects from a news media-stimulus (poll publications) on an audience-response (individual opinion).

At the most basic level, news media can potentially influence individual opinions because they provide people with political and social information, and, in particular, with

information on the opinions of others in society, such as publications of opinion poll results (Kim & Weaver, 2001). Accordingly, the influence of poll publications in the news media can be studied as a particular case of information dissemination effects on the public (Traugott, 1992, pp. 127-128). Studying the effects of poll publications is particularly important because people depend on the media for most of their information about society. Zaller (1992, pp. 6-7) even suggests that information disseminated by politicians and journalists is not only the most important source of political information, but is also often the original source of interpersonal communications with friends or family about public affairs. The media, thus, can be considered an important source of information about the opinions of others in society.

For example, in the 'dependency theory' of Ball-Rokeach and de Fleur (1976), audiences are considered to be dependent on media information resources to satisfy information needs, such as understanding the society in which people live. As the social system becomes more complex, people may become less aware of what is going on in society, and hence may rely more heavily on the media to have an indication of this society. Accordingly, cognitive, affective and behavioural effects of media on audiences may occur. Firstly, cognitive effects may occur because media can affect the range of interpretations to make, the number of beliefs and values upon which people base their opinions or they may affect the formation of a new attitude. For example, audiences have formed numerous new attitudes over time, such as about anti-smoking or environmental issues, which received much attention in the media. Secondly, media can have affective effects on one's feelings and emotional responses. Finally, media messages may have effects on overt action, such as activation effects (doing something that one would not have done as a consequence of receiving media-messages) or deactivation effects (not doing something that one would have otherwise done as a consequence of receiving media-messages). Such behavioural effects may be the result of previous cognitive and affective media-effects. For example, media can affect people first in their formation of an opinion, after which they will publicly express their opinion (e.g. during a political meeting) or join a protest group and participate in protest actions (Ball-Rokeach & de Fleur, 1976).

However, whether, and to what degree, the publication of poll results might influence the opinions and behaviour of the public is a much-debated subject. Many different theories and diverse research designs have been developed to discover such effects (see de Boer & Brennecke, 2003; Hardmeier, 2008). Assessing the potential impact of disseminated polls on the public is complicated because of a wide range of possible effects, the

indirectness of several effects (e.g. opinion leaders), and subgroup differences in the susceptibility to poll effects (Traugott, 1992). Although research findings on poll effects are often ambiguous and inconsistent, the assumption remains that the media dissemination of poll information may produce substantial effects on the audience (Hardmeier, 2008, p. 505). This deep-rooted belief in poll effects can be illustrated by the worldwide introduction of laws that restrict or prohibit the publication of pre-electoral polls shortly before Election Day. As aforementioned (cf. Subsection 2.1), also in Belgium such a poll publication-ban act existed between 1985 and 1991, motivated by the unfounded assumption that polls could distort and manipulate the opinions of the general public (Voorhoof, 1992, pp. 431-432). Likewise, academic scholars have assumed the existence of poll effects. For example, Mutz (1998, pp. 182) contends that 'the absence of evidence for many of these [effect-] theories is not necessarily evidence of their absence'. Therefore, further empirical investigation of poll effects is required (Blais, Gidengil & Nevitte, 2006, p. 264; Faas, Mackenrodt & Schmitt-Beck, 2008). Before a research design for an empirical study of poll effects can be developed, however, theoretical perspectives about media-effects in general, and poll-effects in particular, are considered.

3.2.1. From powerful to limited media-effects

A paradigmatic shift in perspectives on media-effects has led scholars to focus more on limited, rather than powerful effects. This shift gave rise to the still dominant thinking of indirect media effects in theories about agenda-setting, priming and framing (McCombs & Shaw, 1972; Iyengar & Kinder, 1987), or the impersonal influence hypothesis (Mutz, 1998; Tyler & Cook, 1984), which will be considered in more detail later in this section.

The *traditional* viewpoint on media-effects, such as from Lippmann (1922) and Lasswell (1927), assumed a powerful and influential media, whose messages could influence receivers in a direct and linear way. This viewpoint was based on experiences with strategic propaganda during World War I. For example, early theories described media-effects by terms such as 'hypodermic needle' or 'magic bullets'. Until now, this traditional viewpoint of powerful media-effects has been used to defend, for example, bans on the publication of poll results. Such restrictions on poll publications have been imposed worldwide (cf. Subsection 2.1), mainly because it has been generally assumed that opinion polls published by the mass media can have direct and powerful effects on citizens, and in particular on their voting decisions during political elections. However,

since the forties, studies from Lazarsfeld, Berelson and Gaudet (1948) or Campbell, Converse, Miller & Stokes (1960) found only minimal media effects. These scholars revised the paradigm of strong media effects and emphasized the personal role in opinion formation, arguing that media mostly can reinforce existing attitudes, rather than change them (Klapper, 2006). In contrast, media-effect research in the seventies returned to the search of strong effects, such as Noelle-Neumann (1974) with her theory about a 'Spiral of Silence'. Since the eighties, however, the perception of strong, direct and powerful media effects on the public has been challenged, and the possibility of the media having limited, indirect and differential effects has been proposed.

In the still dominant paradigm of the *limited* media effects, as opposed to the powerful media effects, it is not stipulated that there is no media-impact at all. In contrast, it is assumed that occasionally strong media effects can occur, but that they are restricted to specific circumstances, conditions and/or subgroups. Thus, the present stage in media-effects research is a combination of both strong and limited effects of mass media (McQuail, 2005). These limited effects are mainly related to processes of selective exposure to and selective retention of media information, the role of group norms, the importance of interpersonal communication, and the influence of opinion leaders (Lazarsfeld, Berelson & Gaudet, 1948; Klapper, 1960; see de Boer & Brennecke, 2003, pp. 37-38; 42). For example, a selective use of the media content can minimize media effects. First of all, in the pre-communication phase, people can selectively pay attention to messages. Secondly, during the communication phase, people can selectively receive information. And finally, in the post-communicative phase, people can selectively remember messages (Kepplinger, 2008, p. 193; de Boer & 't Hart, 2007, pp. 110-111). Because these selection processes may differ between individuals, it can be expected that different subgroups in the population will be differently affected by the media disseminated information.

3.2.2. Agenda-setting, priming and framing effects

Within the paradigm of limited and individually different media-effects can be positioned the theories of agenda-setting, priming and framing, which originated in the 1970s and 1980s. These theories suggest that potentially strong media-effects on individual opinions may occur, but that they depend on the characteristics of how people process messages from the media (Scheufele & Tewksbury, 2007, p. 11). Of course, not only the media, but also opinion leaders and interpersonal communication with friends and family

play a role in these attitude formations. However, Ball-Rokeach and de Fleur (1976, p. 11) suggest that they 'probably play more of a role in determining the specific content and intensity of the attitudes formed than they do in determining which events, people, or objects are likely to become candidates for attitude formation'. Thus, although messages from the media or 'media discourse' may not be the only resource people rely upon to construct their (political) opinion, the way in which media disseminate and present news may be used by individuals to understand events, give meaning to issues and relate them to the more general political environment (Shen, 2004; Gamson, 1996, pp. 111-112).

As media not only disseminate information, but also select and create news based on opinion polls (cf. Subsection 2.2), it is important to study whether and to what degree poll news does affect the way in which individuals form their opinions. For example, Lippmann (1954 [1922]) suggested that media-frames of reference can have direct, and rather detriment effects on opinions. He argued that not only people's understanding of 'facts' are affected by elite frames and news stereotypes, but also that people's thoughts, feelings and actions are mainly determined by pictures based on cultural and elite-supplied stereotypes. Lippmann considered this problematic since people's interior representations or so-called 'pictures in their heads', as well as their general 'stereotypes' to describe and judge reality would not always correspond with 'the world outside'. Consequently, people would not respond to 'facts', but rather to 'pseudo-environments' created by elites, such as the media (Lippmann, 1954; pp. 25-31; 88-90). Zaller (1992) also considered the media flow of communication as highly selective and stereotyped. Such a perspective focuses attention on the way in which journalists present information to the public, and how this may affect the way in which people interpret the media-disseminated information (Zaller, 1992, pp. 6-8). This idea refers to the agenda-setting role of the media.

The agenda-setting theory stipulates that putting issues on the media agenda may affect the importance people attribute to these issues, which in turn may affect the formation of personal opinions about them (see de Boer & Brennecke, 2003, p. 185). This theory links the media agenda to the public agenda with regard to issue saliency. Put differently, the agenda-setting theory relates the emphasis that the media places on particular issues to the importance that the audience attributes to these issues (Scheufele & Tewksbury, 2007). First, information-gathering and –processing systems of the media filter topics and selectively deliver these to the public, after which the public selects a limited number from

these topics, based on individual differences in personal interest and concern, as well as the position one takes in society (Ball-Rokeach & de Fleur, 1976).

The original agenda-setting theory distinguishes between two levels of agenda-setting. The first agenda-setting level concerns the influences of the frequency with which issues are covered in the media on the perceived importance of issues ('*what to think about*'). A typical research design of this first agenda-setting level is the comparison of issue saliency in the media with the issues respondents express to be the most important problem their country faces. The second agenda-setting level, on the other hand, is related to the influence of the way in which topics are covered, or what attributes of issues are stressed on evaluative judgments ('*what to think*'). This second agenda-setting level is often studied during elections to see whether media coverage of candidate traits influences the way in which people think about the candidates (McCombs & Shaw, 1972).

The priming and framing theories are closely related to this second level of agenda-setting, as they suggest that a particular media presentation of issues may affect people's interpretation of these issues. More specifically, by emphasizing particular aspects of an object in the media content, people might define and evaluate that object differently (see de Boer & Brennecke, 2009, p. 202; 208). First of all, the priming theory focuses on the repeated media coverage as a potential source of influence on people's interpretations. More specifically, priming suggests that the issue saliency in the media can affect what considerations people will use to form and express an opinion. Therefore, this priming theory is most closely related to agenda-setting, as they are both based on information-processing models in which it is assumed that people express opinions that are most salient or accessible to them (Kepplinger, 2008, pp. 197-198; Scheufele & Tewksbury, 2007).

Framing theory, on the other hand, focuses on media-frames, which are considered to be schemata according to which people may interpret media-messages, such as news reports (Kepplinger, 2008, pp. 197-198; de Boer & Brennecke, 2009). More specifically, it is assumed that the way in which an issue is framed or interpreted by the media can affect the public's interpretation and understanding of that issue. Frames can connect different concepts in a particular way, which individuals may accept and subsequently implement in their own opinion formation. Whereas at this micro-level, framing refers to the way in which people use frame information and argumentation in their individual opinion formation, at the macro-level, framing refers to the modes in which media present

information and use argumentation. Thus, the latter is concerned with message construction by the media, while the former refers to media-effects on individual opinions (Scheufele & Tewksbury, 2007; Kinder & Sanders, 1990, pp. 73-75).

That people use media-frames in constructing their own opinion 'frame' about different complex political issues was found by Gamson (1996) based on focus group conversations. He identified three indications for the use of media discourse in expressing opinions, namely 'spotlighted facts' that help people in selecting information, the appearances of 'public figures' and the use of particular 'catchphrases'. Furthermore, it was observed that some people merely relied upon cultural resources to understand issues, and often used media frames, while others merely relied upon personal resources (e.g. personal experiences), and largely ignored media frames. In between these groups were people who integrated media frames in their own opinion, especially if these were consistent with their own personal resources (Gamson, 1996, pp. 115-119; 124-130).

Agenda-setting, priming and framing theories implicitly follow the viewpoint of opinions created on the spot (Zaller, 1992; Hill & Kriesi, 2001; Van der Veld & Saris, 2004). Indeed, their media-effects on opinions show that opinions do not consist of a permanent and fixed internal state, but can change in the light of new information, depending on what considerations are salient (Kinder & Sanders, 1990). In particular, agenda-setting and priming theories are primarily concerned with *accessibility* effects due to issue saliency ('*whether* we think about an issue'), while framing theory focuses mainly on *applicability* effects based on interpretative schemes ('*how* we think about it'). Although both effects will often be intertwined in reality, they may differ in their persistence over time. For example, it may be expected that an accessibility effect is more likely to arise only short-term, because the saliency of considerations will depend on the continuously changing media-attention to issues. In contrast, an applicability effect will probably persist longer as people accepted and implemented the connection between concepts that a particular frame suggested (Scheufele & Tewksbury, 2007; de Boer & Brennecke, 2009). The next section delves further into the psychological mechanisms that may underlie these accessibility and applicability effects on opinions due to media information, and more specifically poll publications.

3.2.3. Accessibility versus applicability effects: Elaboration Likelihood Model

Accessibility effects because of issue salience described by agenda-setting and priming theories on the one hand, and applicability effects based on interpretation schemes described by framing theory on the other hand may be explained by the two routes of persuasion suggested in the Elaboration Likelihood Model (ELM). Indeed, the former accessibility effects correspond to the peripheral route of persuasion effects, while the latter applicability effects refer to the central route. The ELM of Petty and Cacioppo (1986; Petty & Wegener, 1999) was developed as a general framework to integrate different research findings and theoretical conceptions about opinion change due to persuasive communications. Therefore, their model can be applied to effects from all kinds of messages and hence, also to effects from poll publications on opinions. The model identifies two distinct routes to persuasion: the central route and the peripheral route. The central route consists of careful thinking about and consideration of the information presented (applicability effects), while the peripheral route consists of using a simple cue in the persuasion context without thoughtful consideration of the persuasive communication (accessibility effects). These two routes can be regarded as poles of a continuum, between which more or less cognitive elaboration may occur (Petty & Cacioppo, 1986, p. 125; Petty & Wegener, 1999, p. 42).

With the term 'elaboration' in a persuasion context is referred to the degree to which an individual carefully thinks about and scrutinizes, thus elaborates upon, the arguments of a message, which will typically result in the implementation of new arguments in the underlying opinion structure. The likelihood of elaboration is considered to be dependent on individual levels of motivation and ability to think about and evaluate the arguments received. When these levels of motivation or ability are low, it is proposed that an opinion will be formed or changed through the peripheral route, such as based on associations with affective positive or negative cues, inferences from the message about the likely correctness or desirability of an opinion, or the characteristics of the message source. By contrast, when the levels of motivation and ability are high, it is suggested that the central route, consisting of extensive effortful processing of the information presented, will be followed when changing an opinion due to persuasive communication. Variables such as stimuli repetition, personal involvement, personal responsibility and the need for cognition (to organize situations in meaningful ways) can affect individual levels of motivation and ability, which in turn affect the route of persuasion followed (Petty & Cacioppo, 1986, pp.

128-130; 139-152). However, the ELM also suggests that in addition to objective processing of information, in which the 'true validity' of a message can be identified and evaluated, also biased information processing might occur, especially if a person generates thoughts in defence of prior held opinions. Factors that may enhance this biased processing of communications are prior knowledge and giving people information beforehand about the message content or persuasive intent (Petty & Cacioppo, 1986, pp. 163-175).

Because the central route requires more cognitive processing of information, such as accessing previously stored information and rehearsing new arguments, it can be expected that the temporal persistence of opinion change through this route will be longer, than opinion change through the peripheral route. Furthermore, opinions formed through the central route will be more likely to resist counter-persuasive messages than those formed through the peripheral route. Therefore, it may be expected that opinions formed or changed through the central route will be held more strongly (Petty & Cacioppo, 1986, pp. 176; 181).

The central and peripheral route of the ELM can be used to classify different mechanisms that may underlie effects from poll publications on opinions. In the literature, five explanations have been mentioned for poll effects on opinions (cognitive response, strategic influence, contagion, gratification, cue taking; see Hardmeier, 2008). These can be broadly classified into (1) explanations that focus on cognitive reactions based on high information processing (corresponds to the central route of the ELM), and (2) explanations that refer to affective reactions based on low information processing (corresponds to the peripheral route of the ELM). Both routes and their explanations for poll effects on opinions are discussed in the next sections.

3.2.3.1. Central route

Under the central route of the Elaboration Likelihood Model (Petty & Cacioppo, 1986; Petty & Wegener, 1999), two major explanations of poll effects can be classified: the cognitive response and the strategic influence (Hardmeier, 2008). These are based on cognitive elaboration of information processing from poll publications.

3.2.3.1.a. Cognitive response

A first possible explanation of opinion change due to poll information within the central route is based on the 'cognitive response' theory or persuasive argumentation. In this

theory, it is suggested that people process poll information in a cognitive way. This means that it is assumed that people rationally think about a media-message, after which a process of 'self-persuasion' follows, in which arguments are mentally rehearsed. In this viewpoint, people would become 'self-persuaded' that the poll results are right (Hardmeier, 2008). Put differently, the cognitive response mechanism suggests that representations of mass opinion may prompt people to think about the possible arguments why others hold a particular opinion. This information of others may make particular arguments more salient, so that people can use them in their own opinion. For example, Mutz (1998) observed in an experimental design embedded in a survey that information about the opinions of others triggered the rehearsal of thoughts relating to a candidate's or issue's popularity, which in turn generated shifts in personal opinions. It was found that especially people with moderate levels of political information and engagement were susceptible to this cognitive response mechanism. Furthermore, this kind of cognitive impact from poll results on personal opinions was found to be reduced if a personal opinion was strongly held and when (counter)arguments were available (Mutz, 1998; pp. 221-226).

3.2.3.1.b. Strategic influence

A second possible reaction to poll results within the central route is a strategic influence, based on the 'rational choice theory'. This theory assumes that people use poll results rationally in order to make a decision that will be very close to one's own interests to 'prevent the worst from happening' (Hardmeier, 2008, pp. 508-510). In this approach, individuals are considered rational actors who are self-interested and pursue their goals or hold preferences that are most attractive to them (Shiraev & Sobel, 2006).

Strategic influence mostly refers to a change in behaviour, while the initial preference or opinion remains unchanged. A particular circumstance in which strategic influence from poll information has been proposed is the voting context. Indeed, in the case of strategic or tactical voting, people might use poll information in a strategic way by changing their actual vote, but not their candidate preference (Mutz, 1998). Accordingly, for strategic voters, it is assumed that poll information does not affect their political preferences or evaluations (e.g. more positively towards a political party or candidate), but that their perceptions of the ongoing electoral process or 'race' may be influenced by poll results. These perceptions of who is (un)likely to win the elections may subsequently influence people's strategic vote considerations (Blais et al., 2006, p. 263). Pre-electoral poll information can be strategically important for voters, because there is typically uncertainty

within the public about the future election outcome. Whether some voters will actually use poll information to make their vote decision in a tactical way, however, is also closely related to the country-specific political system. For example, in countries where political parties must obtain a minimum percentage of votes to be represented in Parliament, as is the case in Belgium (with an electoral threshold of 5%), polls can encourage a number of people to vote strategically for those smaller parties (Lang & Lang, 1984, pp. 136-137; Faas et al., 2008).

The underlying psychological model of strategic voting and more broadly of the strategic influence on opinions is rationally-based, as it is assumed that people are rational actors who seek to maximize their utilities and use information in a rational way, by thinking thoughtfully about a particular choice. However, this implies that strategic influence from poll publications is most likely to occur only in a small segment of the public, namely those who are highly politically involved and show high levels of political knowledge (Mutz, 1998). For example, Saris (2004) suggests that especially the group of people with a specific interest in an issue will collect much information about that issue and will be aware of the different advantages and disadvantages associated with a choice for a particular option. Put differently, their preference will be rationally based on considering the positive and negative arguments in the information presented (Saris, 2004).

3.2.3.2. Peripheral route

While the previous explanations of opinion change due to poll information refer to the central route of high cognitive information processing, the following explanations fall under the peripheral route of affective reactions to poll information, namely contagion, gratification and cue taking.

3.2.3.2.a. Contagion

A first explanation of opinion change due to poll information under the peripheral route is 'contagion', which is related to crowd and advertising psychology. This refers to an affective reaction to poll results, namely that people want to join the masses (Hardmeier, 2008). In particular with regard to pre-election polls, this mechanism has been referred to as a 'bandwagon' effect. This may occur if the expectations of who will win the elections make people more likely to vote for a candidate. Such an effect may also work in the opposite direction (i.e. the underdog effect), if some people vote for a candidate because they expect him to lose. Such effects are related to the potential 'self-fulfilling prophecy' of published polls: a public prediction based on poll results may influence the actual

voting behaviour in a way that it confirms the prediction (Simon, 1954, pp. 245-246). Whereas the strategic voting mechanism of the central route suggests that poll information can affect people's perceptions of the electoral race, the contagion or bandwagon mechanism of the peripheral route suggests that poll information may primarily influence voters' preferences and evaluations of political parties or candidates. Thus, based on the poll-depicted chances of parties winning or losing in an election, voters may evaluate them more positively or negatively (Blais et al., 2006, p. 263).

Similar to strategic influence, bandwagon and underdog effects are also related to the specific structure of electoral systems. For example, in the presidential election system of the US, primaries and early campaign dynamics are very important. Perceptions of who will win a presidential nomination contest (which is organized before the actual election) may affect the likelihood of gaining popularity over time and ultimately winning votes (Hickman, 1991, p. 103). Another effect of early-presented electoral trends is the notion of 'momentum', which refers to the observation that declining support for political candidates is more likely to decline even further, and increasing political support tends to become even greater (Mutz, 1998, pp. 190-191).

3.2.3.2.b. Gratification

A second possible explanation of poll effects on opinions within the peripheral route is 'gratification', based on the underlying 'uses and gratifications'-theory of media-effects. This theory assumes that the audience consists of active and selective users of media content, who are stimulated by their own motives. With regard to elections, this would mean that people want to feel good about the electoral outcome and, therefore, use the information by which they are on the side of the winners (Hardmeier, 2008; Katz, Blumler & Gurevitch, 1974).

This viewpoint assumes that being on the winning side is 'intrinsically gratifying'. Such gratification-theory can be categorized under the psychological 'functional theories', which are concerned with the instrumental purpose of holding particular opinions. These theories suggest that opinions can change depending on the personal evaluation of the usefulness of opinions. One of the ways through which this functional utility of opinions might change is the impact of new information. In response to this information, utilitarian reinforcement for oneself or important others, social reinforcement and self-evaluation may play a role in changing opinions (Suedfeld, 2007, pp. 38-45). For example, Katz (1960) mentioned three motivational constructs: the adjustive function to obtain extrinsic

reward, the ego-defensive function to protect one's self-respect and the knowledge function to fulfil the need of structuring the world. Opinions then can change if their functional utility changes. However, Mutz (1997, pp. 207-209) is uncertain how gratifications of indirect affiliation, such as representations of mass opinion by poll results, may affect people's opinions in such a functional way.

3.2.3.2.c. Cue taking

A third possible explanation why poll effects on opinions may occur within the peripheral route is 'cue taking', which refers to using those cues from the message context that are easy to process (Hardmeier, 2008). This cue taking can be informative or normative. Firstly, people can use cues from a message in an informative way, by perceiving a social consensus as the 'correctness' of an opinion, namely by assuming that many people holding a similar opinion cannot be wrong (Hardmeier, 2008, pp. 508-510). This mechanism is labelled 'consensus heuristic', which suggests that people use information about consensus as a simple schema indicating that an opinion is valid. For example, Mutz (1998) assumes that people will rely on the opinions of others as a heuristic cue in their own opinion formation especially in conditions of low levels of information and low-issue involvement, in which people do not want to exert much mental effort.

Secondly, apart from this informative way of cue taking, cues from poll data can be used in a normative way. For example, if people do not want to be the only one in their group holding a particular opinion, they may conform to the opinion of a reference group (Hardmeier, 2008, pp. 508-510). In this regard, conformity refers to the normative social influence or 'the desire to be personally rewarded for conforming behaviour and to avoid social punishment by conforming to others' expectations'. For example, in the social-psychological experiments of Asch (1952), it was observed that one third of the subjects were affected in their individual judgment by the unanimous majority, due to a need for social approval. However, besides evidence for conformity, the experiments also showed that there was still a lot of independence in expressing an opinion (Mutz, 1998).

This distinction between normative and informative cue taking from messages resembles Deutsch and Gerard's (1955) distinction between normative social influence to conform with the positive expectations of another and informational social influence to accept information from another as evidence about reality. Especially the normative social influence refers to influence from a group upon individual judgments. This notion of reference groups can be relevant for poll effects, since the perception of what a particular

group of others thinks can guide people in their own opinion formation (Glynn, Ostman & McDonald, 1995, pp. 253-254). However, there is an important difference between conformity to small groups, which may be great, and influence from mass opinions, such as poll results, of which the reference public is mostly much larger, undifferentiated, anonymous and psychologically distant. Furthermore, social pressure from polls is not a face-to-face interaction within a specific physical location, because polls are mostly disseminated through the media. Finally, there are no social rewards or punishments for conforming to the opinions of others represented by poll results. Therefore, conformity effects from poll publications may be attenuated (Mutz, 1997, pp. 197-205).

3.2.4. Summary

This section showed that media, and in particular poll publications in the media can play a role in individual opinion formation and change. Thus, studying poll effects can be regarded as a specific case of an information dissemination effect (Traugott, 1992). Different psychological mechanisms may underlie individual opinion formation and change. Indeed, it was argued that high and low information processing (or cognitive elaboration in terms of the ELM-model) can lead to a different route of being persuaded by media-information (central versus peripheral route). Therefore, the next section goes deeper into these processes of individual opinion formation, and in particular how individual characteristics may condition the processes by which people receive, accept and subsequently integrate new information into the array of considerations that constitutes their opinion.

3.3. Differential effects of media on opinion (Moderators)

The previous explanations for effects from poll publications on opinions already touched upon the fact that there might be individual differences in media-effects. Therefore, they are discussed in more detail. Additionally, contextual differences, as well as their interactions with individual characteristics are considered.

3.3.1. Individual differences in opinion formation

In Zaller's RAS-model, political awareness and predispositions are identified as the most important factors that condition the way in which information is acquired through acceptance and resistance (Zaller, 1992). Put differently, these individual characteristics

are assumed to be related to a varying degree of susceptibility to effects from media-disseminated information on opinions. In line with Zaller's RAS-model, additional individual characteristics have been proposed: issue-specific political interest (Saris, 2004; Saris & Sniderman, 2004), political knowledge and motivation (Visser, Holbrook & Krosnick, 2008), as well as opinion strength and crystallization (Kriesi, 1999; Sciarini & Kriesi, 2003). These individual characteristics that may lead to differences in opinion formation due to poll information are successively considered in this section.

First of all, Zaller identified individual political awareness and political predispositions as the most important factors that may condition individual opinion formation in the light of new information. Zaller's concept of 'political awareness' refers to both political interest and political knowledge. The former is related to people's attention to politics, while the latter refers to people's intellectual engagement with or understanding of political issues. Zaller's term 'political predispositions', on the other hand, can be conceived as all individual-level factors that determine whether people will accept or deny the political communication they are exposed to, such as personal interests, values and experiences (Zaller, 1992, pp. 21-22).

Similar to Converse's (1964) division of the public in two groups according to their level of political sophistication (in terms of abstract conceptualization in evaluating politics), Zaller (1992) divides the general public in three groups depending on their individual levels of political awareness and political predispositions. A first group that Zaller distinguishes consists of those people with the highest levels of political awareness, who typically show the most attention to political messages. Because these people are able to critically evaluate the information they are exposed to, they will resist those arguments that are not in line with their own partisan ideology and support the views that are in agreement with their political predispositions. In contrast, a second group distinguished by Zaller comprises those people with the lowest levels of political awareness, who generally show little attention to political messages, so that they are fairly unaffected by efforts to influence their opinion. Finally, a third group is composed of those people with a level of political awareness in between both previous groups. These are the moderately informed, who pay enough attention to political messages, but are not able to evaluate them critically, so that they can be considered as the most susceptible to persuasive efforts (Zaller, 1992, p. 19). This means that Zaller considers the middle group, in terms of political awareness, to be possibly the most influenced by media-messages, such as poll publications.

Indeed, in terms of Zaller's RAS-model, the more politically aware persons are more likely to receive and understand the political messages they pay close attention to (Reception axiom) but they are more selective in which information they internalize as considerations (Resistance axiom), dependent on the degree of consistency between the political messages and their individual predispositions. Accordingly, it can be assumed that the opinions of the most politically aware persons will comprise a large number of considerations which are internalized in a relatively consistent way. Consequently, their expressed opinions will be more in line with their political predispositions, relative to the less aware people who internalize fewer considerations and in a rather inconsistent way. Put differently, whereas an individual's degree of political awareness is mainly related to the reception of information, people's political predispositions are mainly related to the resistance of information (Zaller, 1992, p. 52).

Following Zaller's viewpoint on individual opinion formation, Saris (2004; Saris & Sniderman, 2004) emphasizes one particular element of political awareness, namely the individual level of political interest. Saris builds upon Zaller's conception of opinions as formed on the spot and individual differences in this opinion formation. In line with the reception axiom of Zaller's RAS-model (the more cognitive engagement with an issue, the more exposure to, comprehension and reception of information), Saris suggests that the higher the individual level of political interest in a specific issue, the more information will be collected about it and hence, the more organized and integrated the individual considerations will be. Accordingly, the susceptibility to new information may be different for people with different levels of general or issue-specific interest (Saris & Sniderman, 2004, pp. 4-5; Saris, 2004, pp. 23-25; pp. 33-34). But whereas Zaller distinguished three groups of people based on political awareness, Saris additionally distinguishes between general political interest and specific issue-interest, and hence comes to the following four groups of people: (1) people with specific interest in an issue, who are also referred to as 'issue publics', (2) people with a general interest in political issues, (3) people with limited interest, and (4) people with no interest in politics (Saris, 2004).

Apart from general or issue-specific political interest, Visser et al. (2008) focus on two other elements of political awareness, namely the individual level of political knowledge and the motivation to augment this level of knowledge. Similar to Zaller, the scholars argue that those people with the highest levels of political knowledge will use flows of political information most 'efficiently and effectively', because they are generally better

able to recognize cues and use them in personal decision making. As a result, their political attitudes are 'likely to reflect a more thorough and sophisticated combination of the positive and negative aspects of the objects, issues, and people they encounter in the political realm'. Moreover, due to prior political knowledge, people are better able to evaluate critically political messages, to generate counter-arguments and, thus, being more resistant to opinion change (Visser et al., 2008, pp. 127-137).

However, Visser et al. (2008) suggest that in addition to the amount of political knowledge, people's degree of motivation to search for and use relevant pieces of information may as well be an essential aspect of opinion formation. Although prior political knowledge makes it easier to acquire and store new information, in some situations, it can be observed that merely increasing the levels of political knowledge is insufficient for changing people's judgments and behaviours. For example, in the domains of public health, the mere provision of information about AIDS or obesity does not necessarily cause a change in behaviour. This indicates that besides levels of knowledge, people's motivation can play a part in individual opinion formation, which is related to the selective way in which people pay attention to particular pieces of information, actively think about it and relate it to information already stored in memory (Visser et al., 2008, pp. 127-137).

Whereas Zaller emphasizes political awareness and predispositions as the most important factors in individual opinion formation processes, Kriesi (1999; Sciarini & Kriesi, 2003) extended Zaller's basic model of acceptance and resistance to new information by introducing the additional effects of opinion strength and 'crystallization'. Kriesi's concept of opinion strength refers to opinions that can be weakly or strongly held, while his concept of opinion crystallization refers to the extent to which an opinion is embedded or integrated in the individual underlying structure of belief elements, which Kriesi conceives as a 'coherent set of more general values and ideological schemes'. Such crystallized considerations have, according to Kriesi, a higher probability to be salient when expressing a response, and are less susceptible to change (Kriesi, 1999; Sciarini & Kriesi, 2003). This resembles Converse's (1964) concept of political sophistication or abstract ideological conceptualization, on the basis of which he distinguished an elite group with stable, strongly held opinions. For example, Sciarini and Kriesi (2003) empirically observed that opinion crystallization is indeed an essential element in resistance to change, as people whose opinion is more embedded in the attitude structure are less likely to change their opinion. Furthermore, it was observed that by controlling for opinion

crystallization, the effect of political awareness on opinion change, proposed by Zaller, was largely reduced (Kriesi, 1999; Sciarini & Kriesi, 2003).

Kriesi's argumentation is in line with the reasoning of scholars such as Schuman and Presser (1981) or Krosnick and Abelson (1992), who argue that the stronger an opinion is held and the more crystallized it is, the more stable opinion responses will be expressed. For example, Schuman and Presser (1981, p. 249) conceive opinion strength as intensity, centrality or committed action, in the sense of personal involvement. Krosnick and Abelson (1992), on the other hand, mention five dimensions of opinion strength, namely (1) the *extremity* of the position on a response scale or the distance from the neutral point of this scale, (2) the *intensity* or strength of emotional feelings about an object, (3) the *certainty* that an opinion is correct, (4) the personal *importance* of an object, and (5) the *knowledge* or amount of information about that object (Krosnick & Abelson, 1992, pp. 179-183). All these dimensions of opinion strength may lead to individual differences in media-effects on opinions.

3.3.2. Contextual differences in media-effects

As argued in the previous section, different segments of the public may have a varying degree of susceptibility to effects from mediated poll information. However, in addition to these individual differences, also contextual characteristics of the media flow of communication, and especially interactions between individual and contextual characteristics may be related to differences in the occurrence of media-effects on opinions. In this section, the following contextual characteristics are successively considered: the level of consensus in the media flow of communication (message direction), the message intensity, and the issue-specific characteristics of familiarity, constraints imposed and complexity (Zaller, 1992; Kriesi, 2004; Sciarini & Kriesi, 2003).

First of all, depending on whether there is consensus in the media flow of communication, Zaller (1992) distinguishes between two ideal-typical situations of potential media-effects on opinion. The first ideal-typical situation mentioned is a 'mainstream' effect, which is most likely to occur if there is a consensus or near-consensus in the media disseminated flow of communication. In such a situation, it is suggested that people and, in particular, those persons who are the most politically attentive, will share the consensus or mainstream opinion. Zaller argues this as follows: 'the greater a person's level of political awareness, the greater the number of mainstream messages the person would internalize

in the form of considerations and hence, all else equal, the greater the person's level of expressed support for the mainstream policy' (Zaller, 1992, p. 98). This is also hypothesized by Sciarini and Kriesi (2003) who argue that in the case of a one-sided information flow, opinions will change in the corresponding direction and that this opinion change will be conditional on individual levels of political awareness. Moreover, the scholars contend that less opinion change can be expected among the opponents of the dominant message and more opinion change can be expected among the supporters of it (Sciarini & Kriesi, 2003). Besides this mainstream effect, the second ideal-typical situation mentioned by Zaller (1992) is a 'polarization' effect, which can arise if there is no consensus in the media flow of communication, thus if different elites hold different viewpoints. In such a situation, it is suggested that people tend to follow those perspectives that are in line with their own ideological or partisan predispositions (Zaller, 1992). Therefore, Sciarini and Kriesi (2003) contend that in the case of a balanced information flow or in other words if there is a two-sided flow of information in which opposing messages are diffused, less opinion change can be expected, than in the case of a one-sided information flow in which all disseminated information favours one side of the issue.

Apart from the presence or absence of consensus in the media flow of communication, another message-related characteristic that can play a part in the individual processes of opinion formation and potential change due to media information is the message intensity (Zaller, 1992; Sciarini & Kriesi, 2003). This message intensity can refer to media attention or the quantity of information, as well as the interest of the audience or the perceived importance of the message (Zaller, 1992; Sciarini & Kriesi, 2003). In general, it is assumed that this message intensity is positively related to opinion change, or in other words the higher the intensity, the more likely it is that opinion change will occur (Sciarini & Kriesi, 2003). Particularly regarding the relationship between message intensity and individual levels of political awareness, Zaller argues that in the case of consensus, it can be assumed that messages with low intensity are more likely to affect only the highly politically aware, as they receive these messages most easily. If there is no consensus and the flow of opposing partisan messages is balanced, on the other hand, a higher level of political awareness would be related to an increased reception of the messages of both positions. However, because the more politically aware are more likely to receive the political cues necessary to evaluate the messages received, they will be able to reject arguments of the opposing side. The less politically aware, by contrast, are considered to be less frequently exposed to persuasive messages, but also less selective in internalizing

them. The situation becomes more complex, if interactions between the individual- and message-related variables become more complex. For example, when the flow of messages changes over time (e.g. from consensual to conflict), and/or when the message intensity differs between the opposing sides, or over time. As a result, different effects in different segments of the public may occur (Zaller, 1992, pp. 185-186; 207-210).

Finally, there are issue-specific characteristics that can interact with individual differences in the susceptibility to media-effects, such as (1) issue familiarity, which refers to people's knowledge of the issue due to media-attention and the frequency of public debates about that issue, (2) issue-specific constraints imposed on people, because of moral principles or material costs, and (3) the complexity or difficulty of issues. Regarding these issue-specific characteristics, it has been generally assumed that less opinion change will occur in cases of high issue familiarity, great constraints imposed, and high issue complexity (Sciarini & Kriesi, 2003; Kriesi, 2004; Zaller, 1992).

Theoretical assumptions about a relationship between the contextual characteristics of message direction and intensity on the one hand, and the individual levels of political awareness and opinion strength on the other hand, as conditions for opinion change, were supported by the empirical research of Sciarini and Kriesi (2003; Kriesi, 2004). They conducted a panel survey among the Swiss voters concerning various policy measures between 1995 and 1999 and included characteristics of the issues (familiarity, constraining, complexity), the panel-waves (moment) and the respondents (opinion strength and political knowledge), as well as interactions between them in the analysis as possible explaining factors. It was found that the intensity of the information flow was positively related to the occurrence of opinion change and that the direction of the political information influenced the likelihood of opinion change, according to individual characteristics. Furthermore, it was observed that information effects on opinions were significantly different for different levels of issue familiarity (the more familiar, the less change) and different levels of issue constraint (the more constraints imposed, the less change). However, regarding the issue complexity, no statistically significant effects were found (Sciarini & Kriesi, 2003; Kriesi, 2004).

3.3.3. Summary

This section discussed individual and contextual characteristics that may condition potential effects from poll publications on individual opinions. For example, Zaller (1992)

identified political awareness and predispositions as the most important individual differences in opinion formation. In line with Zaller, Saris (2004; Saris & Sniderman, 2004) focused on issue-specific political interest and Visser et al. (2008) focused on political knowledge and motivation. In addition, Kriesi (1999; Sciarini & Kriesi, 2003) emphasized the importance of opinion strength and crystallization. These individual differences in media-effects on opinions may interact with contextual characteristics of the flow of communication, such as message direction and intensity or issue-specific characteristics (Zaller, 1992; Kriesi, 2004; Sciarini & Kriesi, 2003). Thus, in a study of poll effects on opinions, such moderators that interact with how processes of opinion change operate cannot be ignored. In the empirical investigation of effects from exposure to poll publications on opinions (Chapters 6, 7 & 8 of Part II), individual characteristics are included in the analyses performed (and in particular political interest and opinion strength). Contextual information is also taken into consideration, and in particular the media-attention given to the issues studied, as well as the number of polls published about them.

3.4. Indirect effect through perceptions of collective opinion (Mediator)

In addition to direct effects from poll publications on individual opinions, which may be strengthened or weakened by moderators at the individual and contextual level, the present section discusses possible indirect effects from poll publications on opinions due to mediators. The importance of indirect media-effects has been recognized since the paradigmatic shift to limited effects. More specifically, the two-step flow of communication model by Lazarsfeld et al. (1948) acknowledged that media can have indirect effects on the general public, through opinion leaders. More specifically, it was proposed that mass media primarily affect 'opinion leaders', who in turn may influence a more broader public of which the persons pay less attention to the media and/or are less politically interested (Katz, 1957; Lazarsfeld et al., 1948). Similarly, in the conditional effects approach, it is hypothesized that media-effects are conditional upon individuals and/or societies. This implies that media can influence opinions indirectly, through one or more mediators (McLeod & Reeves, 1980). The present dissertation especially focuses on perceptions of collective opinion as a possibly important mediator in the effects from poll publications on individual opinions.

Poll information that is widely disseminated by the news media can give people an important indication of collective opinion. Indeed, opinion-poll results provide information on the general opinion climate with its minority and majority opinions (Lang & Lang, 1984). As the apparently precise poll results give people an idea of the opinion distribution in the general public for a specific issue, they might primarily affect people's perceptions of collective opinion, which in turn may influence people's individual opinions (Mutz, 1998, pp. 22-23). For example, Mutz (1998, pp. 77-79) made a clear distinction between media-effects on perceptions of collective opinion and media-effects on personal opinion.

Although the mass media can be considered as an important source of information on which people may base their perceptions of collective opinion, there are other sources which could influence these collective perspectives, such as interpersonal communication or people's partisan predispositions. First of all, people can learn about others' opinions through interpersonal communication. Especially the communication about others who are similar to themselves can make people to generalize this nonrandom sample of opinions to their perception of a larger opinion climate (Mutz, 1998, pp. 67-68). Secondly, people can also 'rationalize' their partisan predispositions or 'project their personal views onto collective others'. This is why such phenomena are called 'projection' effects. These effects refer to the personal estimation that the own viewpoint is shared by a large proportion of other people. For example, with regard to elections, it means that voters expect their preferred party or candidate to win, regardless of the actual electoral positions. Elements such as education or the provision of accurate information about the opinions of others were found to moderate these projection effects but did not make them disappear (Mutz, 1998, pp. 63-65). Within these projection effects, the looking glass, false consensus and pluralistic ignorance effects are further described.

3.4.1. Looking glass, false consensus, pluralistic ignorance

The relationship between perceptions of collective opinion and personal opinions is fairly complex, as different phenomena may occur that are difficult to distinguish. An overview of these phenomena, based on de Boer and Brennecke (2003), is presented in Table 3-2.

Table 3-2: Overview of interrelationships between opinion distributions: real opinion distribution, perception of collective opinion and personal opinion

Real opinion distribution	Perception of collective opinion	Personal opinion	
		+	-
+	+	I) Looking Glass	II) (Spiral of Silence)
	-	III) Pluralistic Ignorance	IV) False Consensus
-	+	V) False Consensus	VI) Pluralistic Ignorance
	-	VII) (Spiral of silence)	VIII) Looking Glass

Note: Table based on de Boer & Brennecke, 2003, p. 86 / plus (+) signifies a favorable opinion, or being *for* an issue question ; minus (-) signifies an unfavorable opinion, or being *against* an issue question

The real opinion distribution in the public may be for or against an issue. Although it could be debated what a 'real' opinion distribution is, it is considered here as the aggregation of opinion responses in an academically high-quality survey that is representative for the general public (cf. Chapter 4). Apart from this real opinion distribution in the public, people may perceive that this collective opinion is for or against an issue. This implies that a correct or incorrect estimation of the collective opinion by an individual is possible. In addition to this perception of collective opinion, people may hold a personal opinion that is for or against an issue. The combination of these different opinion distributions can lead to different situations. Firstly, if the real opinion distribution, the perception of collective opinion and the personal opinion are similar, in terms of having the same direction for or against an issue, a 'Looking Glass' effect might occur (cf. situations I and VIII in Table 3-2; cf. Cooley, 1902; Mead, 1913). This effect entails that the own opinion is conceived as so obvious that it is believed to be the majority opinion. In other words, it consists of the conviction that most other people share a similar personal opinion. In this situation, the personal opinions and perceptions of collective opinion correspond to the real opinion distribution in the public. Secondly, if the collective perception and the personal opinion are similar, but dissimilar to the real opinion distribution, a 'False Consensus' effect may arise (cf. situations IV and V in Table 3-2; cf. Ross, Greene & House, 1977). This effect resembles the looking-glass effect, as people tend to see their own judgments as common and appropriate, but it consists of a false generalization of the real opinion distribution in the public. Thirdly, if the personal opinion resembles the real opinion distribution, but differs from the perception of collective opinion, the phenomenon is labelled 'Pluralistic Ignorance' (cf. situations III and VI in Table 3-2; cf. Katz & Allport, 1931). This refers to a misperception of the general climate of opinion, in which the majority opinion is mistakenly perceived as the minority opinion. Finally, in the remaining situations (II and VII in Table 3-2), people correctly perceive the collective opinion but hold an opposing personal opinion. These situations might refer to 'the Spiral

of Silence' (de Boer & Brennecke, 2003, pp. 85-87; Kepplinger, 2008, p. 1999), which is considered next.

3.4.2. The Spiral of Silence

The 'Spiral of Silence' theory developed by Noelle-Neumann (1974) is based on the relationship between the perception of collective opinion and the willingness of people to express their personal opinions publicly. It is assumed that people constantly monitor the general climate of opinion, for example by using media content, in order to know the majority opinion. If people perceive themselves to be in the minority, they will be less likely to express their personal opinion publicly than if their opinion corresponds to the common viewpoint. Therefore, some opinions will be expressed to a lesser extent, so that fewer and fewer people will find support for these apparently weak opinions. Consequently, a 'spiral of silence' may be created. Similarly, supporters of the majority opinion will express their opinions more frequently so that it eventually may become the dominant viewpoint. The underlying psychological mechanism of the spiral of silence is 'the fear of social isolation'. People will be more reluctant to express their personal viewpoints if these opinions are perceived as unpopular and deviating from the general consensus. The fear of isolation then makes some people to 'fall silent' (Noelle-Neumann, 1995, pp. 40-47; 1974, p. 44; Mutz, 1998, p. 183; 195). However, empirical findings from studies about the influence of perceptions of mass opinion on people's willingness to express their personal opinions have been fairly weak and inconsistent (see Mutz, 1998, pp. 183-186).

3.4.3. The Third Person Effect

A different approach to the relationship between perceptions of collective opinion and personal opinion is described by the theory on the 'third-person effect'. This third-person effect refers to the perception that the greatest impact of persuasive communication by the mass media 'will not be on "me" or "you", but on "them" – the third persons' (Davison, 1983, p. 3). The central idea is a discrepancy between the perceived media impact on people's own opinions and the perceived media impact on the opinions of others. According to Perloff (1996, p. 178-180), people are 'psychologically predisposed to overestimate the effects that communications have on others'. An indication of this third-person effect is that when people are asked directly whether they are influenced in their opinions or vote decisions by published polls, they are often convinced that polls indeed generate such effects, but especially on others, not on themselves (Lang & Lang, 1984, p. 133). However, actual effects do not consist of real opinion change of the others, but

effects may arise in the opinions and actions of those who believe 'the others' will be influenced (Davison, 1983, p. 3).

Across different empirical studies, it was found that the third-person effect is greater (i.e. greater discrepancy between the perceived effects of a message on oneself relative to effects on others) when the message issue is considered as personally important, when the source is conceived as negatively biased, and when the 'others' are very generally defined. Regarding demographics, it seems that well-educated and older people are more susceptible to the third-person effect. Additionally, studies observed that this effect is more likely to occur when people perceive the outcome or consequence of a message as quite negative or socially undesirable for themselves. This is, for example, the case for political ads or poll publications (Perloff, 1996, p. 183-187). Indeed, the notion of social desirability might be a plausible explanation of the third-person effect, since people in general, and those with a higher formal education in particular, conceive it as rather socially undesirable to be affected by persuasive media messages (Schoenbach & Becker, 1995, p. 342).

3.4.4. Impersonal media-influence on perceptions of collective opinion

In particular Mutz's theory about impersonal influence from the media on personal opinions by affecting perceptions of collective opinion is closely related to the study of potential poll effects on opinions. The term *impersonal influence* refers to different studies that investigate the relationship between people's political opinions and their perceptions of collectives (i.e. collective opinion and mass experience). This means that theories about looking glass effects, false consensus and pluralistic ignorance, as well as theories about the spiral of silence and the third person effect fall under the umbrella-theory of impersonal influence. But whereas projection effects, such as looking glass effects, false consensus, pluralistic ignorance focus on a rationalization process of the own predispositions as collective opinions, Mutz hypothesizes that media primarily affects perceptions of collective opinion and that these perceptions may influence personal opinions. The central idea is that knowledge about the opinions of distant, impersonal 'others' may influence people's personal opinions. Thus, it is argued that the mass media may not only affect opinions directly, but also indirectly, by affecting the perceptions of collective opinion. These perceptions then might in turn influence individual opinions about political issues (Mutz, 1998, pp. 77-79).

Whether or not people correctly assess the general climate of opinion (cf. Table 3-2), de Boer and Brennecke (2003, p. 87) suggest that perceptions of collective opinion or popular support may indeed influence people's individual opinions. Poll publications disseminated by the media may provide an important indication of the general climate of opinion, on which people may base their perception of collective opinion. Although such mediated opinion polls are not the only possible indication people may use to assess the general opinion climate and opinion changes in society, they provide important information about the state of the majority opinion and the ongoing opinion movements in the public (Lang & Lang, 1984, pp. 139-141).

For example, Mutz performed a quasi-experimental study about the impact from the media on personal opinions and perceptions of collective opinion. She compared these opinions and perceptions among the readers of a newspaper that had deliberately set the agenda about the issue of low-income housing, the readers of another daily newspaper and non-readers. As she obtained the persuasive media-agenda in advance, she could acquire a pretest of people's opinion before the issue was emphasized in the news coverage of the agenda-setting newspaper. It was found that the media-agenda did not affect the personal opinions on low-income housing, nor the personal salience or concern about the issue. By contrast, for the perceived public support, as well as the perceived collective issue salience, significant differences were found between the groups. The readers of the different newspapers showed perceptions of collective opinion going in significantly different directions, according to the respective newspaper coverage. The perceptions of collective opinion of the nonreaders, on the other hand, did not change significantly. The observed media-effects thus were on the collective perceptions rather than on the individual opinions (Mutz, 1998, pp. 81-90).

Based on existing literature and her own quasi-experiment, Mutz contends that personal experience will primarily influence personal opinions, whereas the mass media will principally affect peoples' perceptions of collectives (Mutz, 1998; Mutz & Soss, 1997). Although personal observation and experience are important in forming people's personal opinions, Mutz find little evidence that they have great impact on the perceptions of collectives. A possible reason for this might be that personal experience is not conceived as representative of greater society, whereas the mass media disseminate information on the opinions of others, which might be more easily integrated into the perception of collectives (Mutz, 1998, pp. 77-79; 81-90). In line with this research, Tyler and Cook (1984) found empirical support for the impersonal-influence hypothesis. In an initial and

replicated experiment on the issue of home health care, as well as five environmental and social risks, they observed that media can affect societal-level judgments without influencing personal-level judgments and hence, that these types of judgments were distinct (Tyler & Cook, 1984). The societal-level judgments include the social importance of an issue, as well as the perception of policy preferences in the public (Mutz & Soss, 1997). From this, it can be inferred that perceptions of collective opinion are a specific form of more general societal-level judgments.

Apart from evidence for effects from news media on perceptions of collective opinion, Mutz (1998) observed in a series of experiments that the information about the opinions of others affected thoughts rehearsed due to cognitive elaboration, and that these thoughts mediated effects on personal opinions towards candidates and opinion about issues. More specifically, it was found that candidate support-cues in an information message prompted people to respond cognitively by thinking about the reasons that others might have about supporting or opposing the candidate under study. In further data analysis it was found that this reflection upon the opinions of others triggered personal opinions. Additionally, in a survey of an extremely low involvement situation, it was found that the direction of positive and negative opinion cues influenced the overall balance of positive and negative thoughts people rehearsed. Furthermore, indications were found that these thoughts mediated effects on personal judgments. Replications in a more natural sudy seemed to support these experimental findings (Mutz, 1998, pp. 218-245).

3.4.5. Summary

Previous research showed that media-information primarily affects perceptions of collectives, while personal experience primarily affects personal opinions (e.g. Mutz, 1998; Mutz & Soss, 1997). From this observation, an indirect media-effect on personal opinions through perceptions of collective opinion may be suggested. If media information primarily affects perceptions of collectives, it might eventually also be influential on personal opinions in an indirect way. Such indirect media effects can be studied by including mediators in the analysis (Holbert & Stephenson, 2003; Baron & Kenny, 1986). It should be noted that the main independent variable on which effects will be studied are the individual opinions and that perceptions of collective opinion are mainly considered as a mediator. Therefore, the main direction of possible influences assumed is from perceptions of collective opinion on personal opinions. However, it is acknowledged that this direction of the relationship assumed contradicts with theories such as the looking

glass effects, false consensus and pluralistic ignorance which suggest that people rationalize their own predispositions onto collective others. But these theories are mainly concerned about whether the perceptions of collective opinion are a correct or incorrect estimation of the 'real' opinion distribution in the public, whatever this may mean. In the present effects-research, however, the main focus is on whether effects from news media information on personal opinions may be mediated by perceptions of collective opinion.

3.5. Discussion and conclusion about individual opinion formation and the role of the media

The present chapter studied the relationship between media and opinions from a theoretical point of view. Theoretical perspectives about individual opinion formation and expression can be used to explain both effects from methodology on poll results (e.g. effects from the poll context and the polling method, such as online polls, which is studied in Chapter 4), as well as effects from media-publications about polls on individual opinions (which is empirically investigated in Chapters 6, 7 and 8 of Part II). The first section of this chapter addressed the initial questions of what an individual opinion is and of which it is constituted. The most general definition of an individual opinion is the expression of an evaluative judgment on a specific object, with direction and strength as the basic characteristics. Perspectives about individual opinions range from Converse's idea on 'nonattitudes' (1964) to Achen's measurement-error thesis (1975) and theories from cognitive psychologies (Tourangeau et al., 2000) which consider opinions to be real and pre-existing. Somewhere in between these standpoints on opinions can be positioned Zaller (1992) who neither supports the viewpoint of really existing and easily retrievable opinions, nor conceives opinions as purely random and meaningless expressions. Instead, he conceives poll responses as constructs created on the spot, depending on the considerations that are most salient at the moment of being surveyed. In this viewpoint, opinions do not consist of a single point or a fixed internal state, but they are regarded as an array of considerations, which refer to multiple, sometimes contradictory, but genuine opinion dispositions (Zaller, 1992; Schuman & Presser, 1981; Van der Veld & Saris, 2004; Hill & Kriesi, 2001). In contrast to Converse, however, Zaller assumes a minimal structure in the opinion responses expressed, related to the poll context. This is in line with what, for example, Shuman and Presser (1981) have found in their various experiments of survey questions.

Zaller's conception of individual opinions constructed on the spot has important implications, both for the potential influence from media publications about polls on the formation of opinions (opinion instability), and for the possible impact of a poll's methodology on the expression of opinion responses (response instability). Indeed, conceptualizing an individual opinion as a temporary construction implies that the array of considerations may change in the light of new information, whether it comes from the external media flow of communication or the direct poll context. This group of people was identified by Hill and Kriesi (2001) as 'the vacillating changers', who may show meaningful short-term reactions to new information. In addition, the scholars identified a group of 'opinion holders', who correspond to Converse's elite group of people who mainly shows stable opinions in line with prior judgments and political predispositions, as well as a group of 'opinion changers', who correspond to the opinion conception of Achen and Tourangeau et al. about real opinion change due to new information. Therefore, Hill and Kriesi's (2001) empirical classification of three groups in the public can be considered an integration of different perspectives on individual opinion formation and expression.

One way through which people receive information is the mass media. At the most basic level media can affect individual opinions because of their information dissemination (Kim & Weaver, 2001; Traugott, 1992). For example, agenda-setting and priming theories posit that issue saliency in the media may affect the importance attributed to issues by the public (agenda-setting) and what considerations are primed to be salient (priming). The framing theory, on the other hand, posits that the way in which an issue is framed by the media may affect how people interpret that issue (McCombs & Shaw, 1972; Gamson, 1996; Kinder & Sanders, 1990; Scheufele & Tewksbury, 2007; de Boer & Brennecke, 2009). Whereas the agenda-setting and priming theories are concerned with accessibility effects, the framing theory is focused on applicability effects (Scheufele & Tewksbury, 2007). Both types of effects correspond to the respectively central and peripheral route of the E(laboration)L(ikelihood)M(odel), developed by Petty & Cacioppo (1986; Petty & Wegener, 1999). The central route of high information processing (or cognitive elaboration) refers to two mechanisms of poll effects on opinions, namely the cognitive response and strategic influence. The peripheral route of low information processing refers to another three mechanisms of poll effects on opinions: contagion, gratification and cue taking (Hardmeier, 2008). These mechanisms explain why opinion formation and change due to poll publications can occur. They arise from a combination of general media-effects and specific poll information effects. Therefore, both will be studied in the

empirical second part of this dissertation about effects from exposure to poll publicatioins on opinions.

Furthermore, both individual and contextual characteristics in media-effects were considered, as well as their interaction that may lead to differential effects of new information, such as from opinion polls on individual opinion formation and change. From the individual characteristics, it will be especially focused on the degree of political interest (as one aspect of Zaller's political awareness-concept, 1992) and individual opinion strength (as one aspect of Sciarini and Kriesi's argumentation, 2003) in exploring the differential susceptibility to effects from media-publications in general and from poll publications in particular. These moderators can be studied by including them as interaction effects in the analysis (Baron & Kenny, 1986). From the discussion of the contextual characteristics, on the other hand, it can be inferred that the general media-attention to issues and to opinion polls in particular is an important factor to take into consideration when studying effects on individual opinions. This media-flow of communication can be mimicked by using real poll information or by studying poll effects in its natural setting. The latter is especially important, because poll publications are only one (small) part of the larger news media flow that is daily disseminated to the audience. Therefore, in particular the media-attention given to the issues studied, as well as the number of polls published about them will be taken into account in the empirical chapters of Part II.

In addition to the conceptualization of an individual opinion (main dependent variable), the role of the media in individual opinion change (main independent variable), and characteristics that may interact with any direct effects from media on opinion (moderators), an indirect effect from the media on individual opinions through perceptions of collective opinion (mediator) was considered. This is especially important because poll publications can give an indication of collective opinion, which might primarily affect the perceptions of collective opinion, which in turn might affect personal opinions. Although theories about the looking glass effects, false consensus and pluralistic ignorance suggest that people rationalize their predispositions on collective others, it may be suggested that perceptions of collective opinion may affect personal opinions, whether or not they are a correct estimation of the real opinion distribution. Previous research on the impersonal media-influence showed that media may primarily affect perceptions of collective opinion, rather than directly affect personal opinions (Mutz & Soss, 1997; Tyler & Cook, 1984). In the empirical study of poll effects on opinions, then, it might be reasonable to suppose

that poll publications affect perceptions of collective opinion, which in turn may affect personal opinions.

In sum, based on the theoretical considerations about individual opinion formation and change, as well as about the role that the media may play in these processes of opinion formation and change, Part II will empirically investigate a main effect from exposure to poll publications, as well as differential effects due to individual susceptibility to poll effects (moderators). Additionally, an indirect effect from poll publications on personal opinions through perceptions of collective opinion (mediator) will be studied. Thus, in addition to direct media-effects, indirect effects are expected. But first, the next chapter studies effects from the poll methodology on poll results obtained (and in particular from push polling, online daily polling and online access panel polling), which may be used by the media as an indication of 'public opinion'.

Chapter 4.
Poll Results: Individual Opinions versus Public Opinion

Whereas Chapter 2 of Part I focused on the interrelationship between news media and opinion polls, and Chapter 3 focused on the relationship between media and individual opinions, the present Chapter 4 discusses the relationship between poll methodology and opinions. Although poll results are de facto an aggregation of individually measured opinion responses, they can be used (e.g. by the news media) as an indication of 'public opinion'. However, the relationship between individual opinions, aggregated in poll results, and the more broader concept of public opinion has been tensed, and heavily criticized (e.g. see Champagne, 1990; Bourdieu, 1979; Blumer, 1948; Page, 2006; Kepplinger, 2008). In fact, precisely the rise of opinion polling raised questions about the social and political consequences of polls and therefore stimulated the thinking about the nature and functions of public opinion in society (Splichal, 2001, p. 3).

The main questions addressed in this chapter refer to methodological issues about the degree to which individually-measured poll responses can represent the broader concept of public opinion. In order to use poll results as a valid indication of a more general public opinion, especially the questionnaire design and sampling design are methodological aspects that may influence the poll results obtained, and hence the indication of public opinion that is provided. This influence of a poll's methodology on the poll results was empirically studied for three polling techniques: push polls, online daily polls and online access panel polls. These are relatively new polling techniques that have been criticized for their potential influence on poll results, and hence for their use as 'public opinion' in the news media. The discussion about push polls was published in *Samenleving en Politiek* (Sonck, 2005), while the empirical evaluation of the weighting procedures for an online access panel were published in *Survey Research Methods* (Loosveldt & Sonck,

2008)[24]. Before these case studies are presented, the public opinion concept is defined, based on its relationship with individually-measured poll results.

4.1. Public opinion: conceptualization

In order to study public opinion formation, the main viewpoints on the concept of public opinion are discussed, as well as the role that these viewpoints assign to opinion polls. For example, in *reductionistic* definitions, public opinion is equated with poll results, because public opinion is reduced to an aggregation of individually-measured opinions. By contrast, in *holistic* definitions, public opinion is considered as a whole that is more than merely a sum of individual opinions, or in other words it is regarded as a collective entity that transcends the individual opinions (Price, 1992, pp. 2-8). But also in the latter viewpoint, poll results can play a part in the broader concept of public opinion, though to a lesser degree than in the reductionistic definitions. For example, these definitions suggest that media can use polls in their news, but by presenting and interpreting them in a particular way, they may create an indication of public opinion that is more than the mere poll results. In the next sections, the different prevailing conceptions of public opinion are discussed, after which the factors that may influence or shape the public opinion concept are considered, as well as important criticisms about the use of poll results as public opinion.

4.1.1. Definitions of public opinion

Public opinion can be generally defined as 'the predominant idea, sentiment, or attitude held by members of a social grouping on specific social and political issues' (Shiraev & Sobel, 2006, p. 2). Due to an implicit paradox between the contradictory terms 'public', referring to collectivity, and 'opinion', referring to individuality, the concept of 'public opinion' has been proven quite complex to define (Herbst, 1998). Although phenomena that resemble public opinion were already referred to in classic works of Plato or Aristotle, the notions 'public' and 'opinion' unified in one concept appeared only in the liberal and

[24] Earlier versions of these articles were an international conference paper: Loosveldt, G. & Sonck, N. (2007). *Evaluation of the Representativity of an Online Access Panel*. Paper presented at 2nd ESRA Conference; Session "Selection Bias in Panel Research", 25-29 June, Prague; as well as keynote presentation: Sonck, N. (2009). *Representativeness of Web Surveys to the General Public*. Presented at Joint ERIM-Unipark Symposium "Online Research: Insights Into Methods and their Application in Practice" at the Erasmus Research Institute of Management (ERIM), 10 June, Rotterdam; and a research report: Loosveldt, G. & Sonck, N. (2007). *Evaluatie van de Representativiteit van een Opt-in Panel*. Research Report, Centrum voor Sociologisch Onderzoek (CeSO), Leuven (BE): Universiteit Leuven, 53p.

democratic philosophies of the 18th century. At that time, liberal-philosophical Enlightenment thinkers (e.g. Locke, Rousseau) described the notion of 'public' as something universal, objective and rational, whereas the notion of 'opinion' was described as something subjective, flux and uncertain (Price, 1992, pp. 2-8). While the previous Chapter (Subsection 3.1) referred to different connotations of an individual opinion, different connotations have also been attributed to the notion of 'public'. Price (1992), for example, suggests two broad interpretations of public. On the one hand, it may refer to common access or goods accessible to the general population, which resembles Habermas' notion of res publica (1989 [1962]). On the other hand, it can be defined as the common interest or common good, which is opposed to individual interests (Price, 1992, pp. 2-8). When this notion of public is linked with opinion, it may refer to the *public expression* of opinions, *public affairs* as the topic on which opinions are formulated, or *the general public* who holds and expresses opinions (De Sola Pool, 1973, p. 780).

Because both the terms public and opinion have been attributed various connotations, a broad variety of definitions of the public opinion concept have been developed. Although a comprehensive definition of public opinion seems necessary, Herbst (1998, p. 2) argues that it is probably impossible to develop such a collectively shared meaning about it. However, in order to have a better understanding of the elements that may represent public opinion, and the role that polls can play in it, the currently most prevalent definitions of the public opinion concept are presented, namely as an aggregation of mass opinions, group interests, elite opinions, media-opinions, or as a form of social control.

4.1.1.1. Aggregation of mass opinions

The narrowest or most reductionistic definition equates public opinion with the aggregation of individual opinions, which are measured by polls within the general population (Price, 1992). Thus, in this viewpoint public opinion is reduced to the outcome of opinion polls. Shiraev and Sobel (2006) distinguish at least three different definitions in which public opinion is conceived as an aggregation of poll results. Firstly, public opinion can be conceived as 'consensus', which occurs when an aggregated opinion distribution shows that more than the majority, but less than the entire population (e.g. 75%) expressed a similar opinion response. Secondly, public opinion can be defined as the 'majority opinion', which means that an aggregation of poll results showed that more than half of the population expressed a similar opinion (> 50%). Finally, public opinion can be conceived as 'plurality opinion', which refers to the opinion that is expressed by the largest proportion of the population, but by less than the majority (e.g. 35%). This might

be the case when more than two response probabilities were provided to respondents (Shiraev & Sobel, 2006, pp. 3-6).

These interpretations of public opinion are based on the proportional distribution of individual opinions measured by polls. They put emphasis on the *number* of people in the mass public expressing the same opinion (Schoenbach & Becker, 1995, p. 324). Besides the raw number of people, however, the proportional opinion distribution can also be interpreted in terms of 'agreement', because a particular proportion of people seem to share or agree upon an opinion. Therefore, the opinion with the highest count may also be used, for example by politicians, as the one with the highest degree of agreement among the general population. Indeed, the majority opinion is considered essential in democratic political systems, as it is the majority rule that decides upon the composition of a government, as well as upon policy-decisions within this government. Hence, an apparent majority agreement on a particular policy option might have actual affects on political conclusions (Childs, 1965, pp. 16-17; Shiraev & Sobel, 2006).

Narrowly defining the public opinion concept as the aggregation of individual opinions of the mass public measured by sample survey techniques has become the dominant way of conceiving public opinion (Herbst, 1998, p. 6), though it is not always clear who constitutes the *mass* in mass public, 'the peoples of the world, the citizens of a particular country, the man in the street, the average person, the common man, or the voting public' (Childs, 1965, p. 12). Mainly due to the historical rise of quantitative survey research and the difficulty of finding an empirically useful definition of the complex public opinion concept, reductionistic definitions have become increasingly important (Price, 1992, pp. 22-46). Consequently, public opinion has been primarily 'measured' through quantitative surveys and opinion polls (Shiraev & Sobel, 2006, p. 3). This has, however, been contested by several scholars (e.g. Herbst, 1998; Bourdieu, 1979; Blumer, 1948; Champagne, 1990) who argue that the aggregation of poll-measured opinions of the mass public represents only one form of public opinion, besides 'expert'-opinions or group interests; elite-opinions, expressed by, for example, elected representatives; and opinions of and in the news media (Powlick, 1995, pp. 428-430). Groups, elites and media may represent public opinion in a way that cannot be gauged by the mere aggregation of poll results. These representations of public opinion are considered next.

4.1.1.2. Group interests

Apart from conceiving public opinion as the aggregation of individual poll-measured opinions, public opinion can be conceived as *group* interests, which refer to the attempts of interest groups, lobbies and other activists to represent public opinion (Herbst, 1998, p. 6). Blumer (1948; 1966) is one of the most influential scholars who emphasizes that public opinion has to be seen as a collective product that is comprised of the striving or strength of opinions, rather than the mere number of people who expresses a similar opinion. Accordingly, the influence of a minority group can be far greater than that of a majority, because of its opinion strength and intensity (Childs, 1965, pp. 16-17). This viewpoint is clearly expressed by two particular definitions of public opinion that take into account group interests: the 'intense minority opinion' and the 'attentive public'. The intense minority opinion can be regarded as the opinion expressed by some individuals who are very concerned about particular issues, such as abortion. The attentive public, on the other hand, refers to the opinions of those in the public with above-average levels of political interest and political knowledge. They are typically more attentive to politics in general or interested in specific issues, relative to the mass public. As a result, they may act as 'opinion leaders', who influence the opinions of others (Shiraev & Sobel, 2006, pp. 3-6; Lazarsfeld et al., 1948).

For example, an empirical study by Herbst (1998) shows the importance that is attributed to group interests. By focus-group conversations in the American state Illinois, Herbst found that political actors, such as legislative staffers, political activists and journalists primarily relied on the opinions of interest groups and lobbyists. The main reason was that these groups could provide them with 'succinct, crystallized information about public opinion' that aggregated opinion distributions of polls could not. The results of opinion polls were also used, but especially during electoral campaigns. The political actors considered the narrow definition of public opinion as the 'voice of the people' of limited practical value in their daily policy-making activities. They argued that the outcomes of opinion surveys could not tell them much about general policy preferences, opinion intensity or the translation of intentions into actual behaviour (Herbst, 1998, pp. 6-7; 153-156). Thus although aggregated poll results were occasionally used, group opinions were considered more relevant.

4.1.1.3. Elites

A conception of public opinion that is closely related to the previous one about group interests concerns the 'elite opinion'. This definition considers public opinion as the

opinion expressed by those privileged individuals that are able to influence policies, such as elected representatives. Their opinion usually reaches the public in a filtered way, through media reports or public debates (Shiraev & Sobel, 2006, pp. 3-6; Powlick, 1995).

Both the definitions of public opinion as group interests and elite opinion are *elitist* because they consider the opinions of particular (groups of) people as those with actual significance, 'legitimized either by their expertness or their power'. Hence, some scholars (e.g. Converse, 1964; Lippmann, 1954 [1922]; Blumer, 1948) consider elite opinion as a more legitimate form of public opinion than the opinions of the mass public, in particular because of dissimilar levels of political interest and knowledge between the elite and the mass. Accordingly, these scholars assume that the mass public would follow the elite opinion (Schoenbach & Becker, 1995, p. 324). Such a viewpoint implies that poll results, which consist of an aggregation of individual opinions expressed by the mass public, would not be considered of much value. However, similar to interest groups, elites could use those polls that are in line with the opinion they wish to propagate. In this way, polls could be used in a selective way.

4.1.1.4. Media

Apart from group interests and elite opinion, the media can play an important role in representing public opinion. Regarding topics about public affairs, Cohen (1963, p. 32) even states that the media not only represent public opinion, but that they *are* public opinion. Likewise, according to Champagne (1990), it is primarily the media who makes an aggregation of individual poll responses *public*. He contends that by the media publication of polls, the supposedly objectively and individually measured opinions are profoundly transformed to something public. For example, emphasizing the collective characteristics of poll results, such as 'the opinion hold by the majority' or public support 'proven' by poll results, rather than stressing the individual characteristics of poll-measured opinions may contribute to a publication of poll results in which the aggregation means more than the individual elements of which it is composed (Champagne, 1990, pp. 117-118; 136-140). Media can disseminate the opinions of others, but they may also 'create' public opinion themselves by the general news content, or by their use of opinion polls (cf. Chapter 2). On the one hand, journalists are well-informed members of the public with fairly high levels of political interest and knowledge, who are particularly attentive to public affairs. On the other hand, they publish the political opinions of important others in society, such as elites and interest groups (Powlick, 1995, pp. 428-

430). Therefore, media may be an important source of information about public opinion in different ways.

In the empirical study of Herbst (1998), it was indeed found that the interviewed political actors referred to the mass media as an important source of information about public opinion. The interviewees reported that the media provided them with often very vivid examples of public reactions. Furthermore, they perceived a close relationship between the media and the public, and therefore considered media-publications as important representations of public opinion (Herbst, 1998, pp. 153-156). In another study, Powlick (1995) found that American government officials defined public opinion most frequently as originated from the news media, besides parliament (American Congress). Elites, however, were mentioned less often as the source of public opinion (Powlick, 1995, pp. 446-447). Similarly, Fuchs and Pfetsch (1996) observed that the governmental information agencies in Germany understood public opinion not only as citizen opinions but also as media opinions. Other conceptions of public opinion, such as the outcome of public discussions were far less frequently mentioned (Fuchs & Pfetsch, 1996, pp. 16-18).

4.1.1.5. Social control

Finally, a connotation of public opinion that diverges from the previous ones is found in the work of Noelle-Neumann (1995, 1977) who considers public opinion as a form of 'social control'. The central idea is that individuals perceive a fear of isolation if they would deviate from the consensus or dominant opinion. In this perspective, public opinion is seen as 'the opinion which can be voiced in public without fear of sanctions and upon which action in public can be based'. Accordingly, individuals are believed to 'constantly observe their environment, in order to see which opinions and modes of behaviour will win the approval of society and which will lead to their isolation'. Noelle-Neumann suggests that highly visible opinions would be adopted and expressed in public more frequently, so that these opinions become even more visible. Opinions with low visibility, on the other hand, would be less and less expressed, so that these opinions appear weaker. Consequently, people holding these less publicly expressed opinions would 'fall silent' because of a perceived fear of isolation (Noelle-Neumann, 1995, pp. 40-47; 1974, p. 44). This is the idea of the 'Spiral of Silence'-theory, which was considered previously in Subsection 3.4.2.

Noelle-Neumann's definition of public opinion can be considered as a 'functional' conceptualization, because public opinion is regarded as a mechanism that influences

individuals to take a stand in public. In such a perspective, the opinion that is expressed in public without fear of being isolated may reduce the number of issues that can be publicly discussed, and may stabilize dominant opinions by discouraging public statements about divergent opinions (Kepplinger, 2008, pp. 192-193). The role of polls in such a perspective then is to provide people with information about the dominant opinion.

4.1.2. Factors of influence on the construction of public opinion

Given the range of different definitions of the public opinion concept, it is clear that the concept is 'multifaceted', in which many elements may play a part (Powlick, 1995, p. 430), such as the aggregation of mass opinions, group interests, elite opinion, media opinion and social control. However, the reductionistic perspective, which reduces public opinion to the aggregation of individual poll-measured opinions has become the most prevalent one (Price, 1992, Herbst, 1998, Shiraev & Sobel, 2006). According to Champagne (1990), the shift to this definition should be seen as a 'social construction' by different kinds of actors, such as pollsters with a commercial purpose, journalists who seek to produce news, and political elites who want to gain knowledge about their voters (Champagne, 1990, pp. 83-86). Indeed, the meaning of public opinion can be considered as 'contingent', or determined by the political, social, technological and communicational environments. Put differently, the conceptualization of public opinion may depend upon the 'ever shifting forces of culture', and, thus, may be socially and politically constructed (Herbst, 1998, p. 1; 13).

At this macro level of public opinion formation, Herbst (1998) refers to four major forces that may influence or shape the way we think about public opinion. The first factor of influence concerns the collectively-shared model of democracy. Whereas in an elitist democracy the opinions of the public would be rather downplayed and elite opinions would be attributed more importance, in a direct democratic system the aggregated opinions of citizens would be considered much more important to take into account (Herbst, 1998, pp. 14-19; Barnett, 2001, pp. 288-291). The second factor of influence on the conceptualization of public opinion concerns the technology or the methodologies that are available to assess opinions. Mainly because of the advent and rise of the opinion polling methodology, the most frequently used method to measure opinions has been through surveys and polls. Therefore, the concept of public opinion has been reduced to the mere sum of individually collected responses to opinion questions. The third factor of influence in constructing public opinion is 'the rhetoric of our leaders' or the

way in which elites strategically conceptualize the nature of public opinion. For example, this influence of elites can be found in the 'Symbolic Constructionist' approach of scholars such as Edelman (1977) and Bennett (1993). They contend that the public opinion concept is a symbol constructed by the leaders in society. Bennett (1993), for example, suggests that it is possible 'for experts to dismiss some opinion formations as the expressions of ignorant and unconstrained publics while legitimizing other opinion poll findings as credible expressions of knowing individuals'. Consequently, claims about public opinion themselves can be considered as political constructions (Bennett, 1993, p. 105), or in the words of Edelman (1977, p. 49) 'to define beliefs as public opinion is itself a way of creating opinion'.

Finally, the fourth source that may shape public opinion is the media. According to Herbst, the media are 'perhaps the most significant molder of public opinion' (Herbst, 1998, pp. 14-19). Media can disseminate essential information about opinions, but at the same time, they may also *shape* public opinion. Therefore, the media can be considered as an important form of 'political institutionalization of public opinion' (Splichal, 2001, pp. 2-3). The way in which journalists evaluate public opinion and report upon public affairs may subtly form particular meanings of public opinion. The use of polls and the generalization of individual statements in media reports can contribute to the way in which public opinion should be understood. Therefore, the media are able to 'legitimate or condemn particular meanings' of the concept (Herbst, 1998, pp. 14-19). Mainly because the media may be highly selective and 'creative' in what they publish as public opinion, and, therefore, affect people's perceptions of public opinion, several authors regard the role of the media in public opinion formation as significant but evaluate it in a quite pejorative way (Herbst, 1998; Suhonen, 2001; Barnett, 2001; Billiet, 1993; 2000; Zaller, 1992).

Not in the least because of the media use of polls as public opinion, a close, but tensed, relationship has been established between individual opinions and the broader concept of public opinion. However, since the advent of public opinion polling, criticisms have been raised against the use of poll results as public opinion.

4.1.3. Criticisms about the use of poll results as public opinion

Bourdieu (1979) expressed one of the most important criticisms about the use of poll results as public opinion, by stating that 'Public opinion does not exist'. More specifically,

he contends that polls are not an appropriate instrument to quantify public opinion because they cannot actually measure the concept, but instead create a 'pure artifact'. His argumentation against polls as the primary measurement instrument of public opinion is based upon three postulates about polling. The first assumption of opinion polling is that everyone has an individual opinion on every issue. Yet, Bourdieu refers to the number of non-responses with which polls typically have to deal as an indication that not everyone has an opinion on every issue. The second assumption of polling is that all opinions have an equal weight. Bourdieu, however, argues that opinions should be attributed a different *social* weight. The third assumption of polling is that there is consensus about what questions are important to survey, and, hence, about the most significant societal problems. Bourdieu, however, refutes that such consensus can actually exist (Bourdieu, 1979, p. 124).

In line with Bourdieu's argumentation, Blumer (1948) posits that public opinion polling is not able to 'isolate public opinion as an abstract or generic concept'. He argues that polling 'gives an inaccurate and unrealistic picture of public opinion because of the failure to catch opinions as they are organized and as they operate in a functioning society'. By aggregating equally-weighted individual opinions, Blumer contends that opinion polls cannot gauge the most essential features of public opinion, namely its reflection of the functional composition and organization of society. But although individuals and functional groups are not equal in participating to and influencing the public opinion formation, they are given equal social weight in polls. Hence, public opinion as a broader concept cannot be considered as the mere outcome of opinion polls (Blumer, 1948, pp. 542-547).

Likewise, Thompson (1966) argues that an opinion does not become public merely on the basis of the volume or the number of people expressing a particular opinion. His argumentation is based on the assumption that the mass public is unreasoned and uninformed. Therefore, he contends that besides the volume of expressed opinions, other elements should be taken into account, such as the persistence, the intensity and the reasonableness of opinions expressed. In such a perspective, 'reasoned' opinions of a small number of people, formed on the basis of rational arguments, are considered more important than unreasoned opinions expressed by a large number of people (Thompson, 1966, pp. 9-10). Similarly, Lowell (1966) contends that the most essential elements of the public opinion concept are not only the counts or the number of people

holding an opinion, but also the weights that have to be attributed to opinions, based on opinion intensity and the depth of knowledge of a subject.

Because of such criticisms against the use of aggregative poll results as public opinion, some scholars, such as Bryce (1966), Page (2006) and Kepplinger (2008) distinguish between an 'active' and a 'passive' form of public opinion. As 'active' public opinion can be considered the opinion expressions of persons who are well-informed, closely engaged in politics and typically higher educated. 'Passive' public opinion, on the other hand, refers to the judgments held by all citizens in the public, regardless of whether the opinions are uninformed, ambivalent or weakly held. Accordingly, Kepplinger (2008, pp. 192-193) categorizes the passive form of public opinion as the 'quantitative' or representative distribution of individual opinions in a population; and the active form of public opinion as the 'qualitative' opinions of some elites within this population. Page (2006) argues that although the active form of public opinion may often represent only a small minority, political actors would take their opinions more frequently into account than the opinions of everyone in the general population (Page, 2006, pp. 14-16). As a result, the group of well-informed and politically-engaged people may play an important role in creating and leading opinion (cf. Lazarsfeld et al., 1948). Although Bryce (1966) states that it is 'rather sentiment than thought that the mass can contribute', he recognizes that the active class of opinion 'makers' will mostly form opinions in interactions with the mass (Bryce, 1966, pp. 16-17).

By distinguishing between an active and a passive form of public opinion, polls can be considered an appropriate measurement instrument to gauge the passive form of public opinion, but not the active form (Page, 2006; Bryce, 1966; Kepplinger, 2008).

4.2. Influence of a poll's methodology on poll results

The previous section addressed the question of whether and to what degree individually-measured poll responses can represent the broader concept of 'public opinion'. Different definitions of public opinion illustrated that it is quite difficult to obtain a comprehensive meaning of the concept (Herbst, 1998). However, the different conceptions can be integrated by making a distinction between *active public opinion*, which can be obtained by qualitative studies such as focus group interviews, and *passive mass opinion*, which can be gauged by quantitative studies such as opinion polls. In order to obtain a relevant indication of this passive mass opinion, however, opinions should be measured by

unbiased questions and based on a representative sample to the general public (Page, 2006; Shiraev & Sobel, 2006; Kepplinger, 2008). Only then can polls reflect this form of passive mass opinion. Therefore, first the role that the poll questionnaire can play in individual opinion expression is considered, after which a representative sample as a condition for a valid use of poll results as passive mass opinion is discussed. The role of the poll questionnaire and sampling design, then, will be studied more closely based on three case studies (push polls, online daily polls, online access panel polls).

4.2.1. Role of the poll questionnaire in individual opinion expression

Already at the time of the early systematically-conducted polls, the major public opinion researchers, such as Gallup, Roper and Crossley, were aware of the potential influence the questionnaire design could have on the poll results. Although in the late thirties some experiments were carried out, it is only from the seventies and eighties that extensive experimentation with question wording was performed by scholars, such as Schuman and Presser (1981), as well as Bishop (1987); Bishop, Oldendick and Tuchfarber (1983). Additionally, Billiet, Loosveldt and Waterplas (1988; 1995) performed such question wording experiments for the Dutch-speaking regions. Their experimental research demonstrated that the questionnaire design can indeed influence the expression of opinion responses in a poll context. More specifically, methodological choices regarding the questionnaire design with its question (1) format, (2) wording and (3) order can affect the individual expression of opinion responses, and hence the opinion distribution obtained by polls, which in turn may be used in media reports (Butler, 2007, pp. 67-68; Lewis, 2001, p. 11). These three methodological aspects of the poll questionnaire are successively considered.

First of all, the *format* (1) of poll questions refers to the type of question asked, the inclusion of a middle alternative, and the use of a filter question. Regarding the type of poll question, there are generally three types of questions mostly used in polls. Firstly, dichotomous close-ended questions are often used in polls, which give respondents only two answer possibilities, such as ‘yes’ or ‘no’, ‘approve’ or ‘disapprove’, ‘like’ or ‘dislike’. Secondly, multiple choice questions often occur in polls, which are also close-ended as they limit the respondents’ answer possibilities to a certain number of categories, predetermined by the pollster, such as the response scale ranging from ‘strongly agree’ to ‘strongly disagree’. Thirdly, open-ended questions may be used in polls, which ask respondents to express their opinion without limitations and according to their own

interpretation of the question. However, cognitive (some people are not able to give a meaningful answer) and methodological aspects (time-consuming categorization and coding) make open-ended questions usually less attractive for pollsters, compared with the more restrictive types of close-ended poll questions (Shiraev & Sobel, 2006, pp. 29-32; Butler, 2007, pp. 67-68). The choice for a particular format of poll questions may have important effects on the individual expression of opinion responses. For example, Schuman and Presser (1981) found that whether an open-ended or close-ended question was used, significantly different results were obtained, such as whether or not the response option 'crime and violation' was provided to the respondents as a possibly important problem of the country (Schuman & Presser, 1981, pp. 82-83). Similar differences were found for the perception of the most important problem in Belgium (Billiet, Loosveldt & Waterplas, pp. 26-27). Scholars such as Bishop (2005, pp. 48-49) and Butler (2007, p. 67) argue that by presenting a particular option as an explicit response category, it is 'legitimized' as a possible 'opinion'.

Apart from the kind and number of response options presented, the explicit possibility to respond with a middle alternative (e.g. 'neither agree, nor disagree') may affect the opinion responses expressed. When such a middle alternative is provided, respondents could choose this option for various reasons, such as because it is an 'easy way out'; because people do not know much about the polled issue; or because it is a meaningful choice, if the individual opinion is actually situated in the middle of a response scale. Bishop (2005) suggests that a very different distribution of the passive mass opinion can be obtained when, for example, a poll with only two answer possibilities is compared with a poll in which a middle alternative was presented as an additional response option. The former would show a quite divided public with a group of people 'for' and another 'against' a particular issue option, whereas giving respondents the possibility to respond with an additional middle category could result in a more 'moderate majority' that would not be obtained by the simple dichotomous question (Bishop, 2005, pp. 55-58). Indeed, empirical experiments of scholars such as Schuman and Presser (1981), as well as Bishop (1987) confirm that respondents were more likely to choose the middle category if it was explicitly presented. Consequently, this can lead to different conclusions about public support on political issues, and hence may produce actual effects on policy-making (e.g. see Bishop, 1987, pp. 223-226).

Another aspect related to the question format that may affect opinion responses is the use of a filter question, which can precede the actual poll question in order to filter

uninformed opinions. It is typically formulated as follows: 'Do you have an opinion on that?' This might be a possible solution to screen out less informed respondents. However, in the empirical experiments of Schuman and Presser (1981), it was observed that if a filter question was used, about a quarter of the respondents shifted away from substantive answers to the 'don't know'-category. But while they found that omitting these responses from the analysis resulted in similar conclusions, Bishop, Oldendick and Tuchfarber (1983, pp. 537-539), on the other hand, reached significantly different conclusions whether or not filter questions were used.

In addition to the choice for a particular format of opinion poll questions (type of poll question, middle alternative, filter question), a second aspect that may affect the opinion responses expressed is the exact question *wording* (2). General recommendations regarding question wording in polls consist of using clear and straightforward wording, as well as avoiding complex terminology, technical jargon, and 'leading' questions, which are phrased in a way they suggest a particular answer. Such question-wording aspects can be directly related to the degree of bias in opinion responses (Butler, 2007, pp. 69-70). Through experimental research, it has indeed been demonstrated that the exact question wording, with its emotional tone and (un)balanced character can influence the opinion responses obtained (see Schuman & Presser, 1981).

Finally, a third aspect which may affect respondents' meaning and interpretation of poll questions, in addition to format and wording is the *order* of poll questions (3). It is suggested that question order effects are likely to occur when several questions dealing with a similar issue are asked in sequence. However, survey designs often group similar items together in order to make it coherent for the respondent. But in this way, a particular meaning of questions may be suggested. In addition to the similarity of questions, differences in the generality of successive questions may cause question order effects. For example, in an experiment of Schuman and Presser (1981), significantly different results were obtained whether the more general question about abortion was asked first, followed by the more specific question; or whether these questions were asked in the reverse order (Schuman & Presser, 1981, pp. 36-37; 75-76). This question order effect was replicated for the Dutch-speaking regions by Billiet, Loosveldt and Waterplas (1988, pp. 72-29). These empirical findings imply that the indication of mass opinion obtained would be significantly different, depending on the order in which the questions were polled (Bishop, 2005, p. 63).

The order of questions may lead to both an increasing consistency or contrast in opinion responses (e.g. see Schuman & Presser, 1981, pp. 28-29; 76). Additionally, the order in which response categories are presented to respondents can play a role in the expression of opinion responses. Whereas question order effects primarily refer to transferring meaning from one question to another, response order effects are related to the way in which respondents deal with the presented response options (Schuman & Presser, 1981, pp. 57-58). Some empirical studies found a 'recency effect', namely that people tend to answer the last provided response category, while other studies found a 'primacy effect', because respondents tend to choose the first presented response option (Bishop, 2005, p. 64).

These experimental findings show that the poll questionnaire, with its format, wording and order can have an important influence on the poll results obtained. They demonstrate that choices about the poll questionnaire can indeed lead to a significant different indication of passive mass opinion, which in turn may be disseminated by the media to a broader audience, as well as policy-makers.

4.2.2. Role of the sampling design for representativeness

Apart from an appropriate questionnaire design, a representative sampling design is a second requirement in order to use opinion polls as a valid indication of the passive form of public opinion (Page, 2006; Shiraev & Sobel, 2006; Kepplinger, 2008). Whereas the questionnaire design may affect poll responses at the individual level (cf. previous section), the sampling design may affect the poll sample obtained, and more specifically, its representativeness to the general public. Therefore, methodological considerations about the potential influence of the sampling design on the representativeness of poll results to the general public are discussed in the present section.

From the overview of methodological poll developments over time (cf. Subsection 2.1), it could be learned that polls have come a long way, as their quality has generally improved (Streb & Genovese, 2004, p. 11), not in the least due to some major 'polling mistakes' (e.g. during the American presidential elections of 1936 and 1948). For those who conducted the early, so-called 'straw polls', representativeness was not an issue, nor the equal chance of being sampled. Instead, sample size was regarded as the most important poll criterion (Butler, 2007, p. 50; Streb & Genovese, 2004, p. 10). Similar to those early polls, it might be argued that some of the polls currently conducted and

subsequently published have to deal with methodological flaws which make representativeness of the opinion responses to the general population difficult, if not impossible. In particular, Internet-related polls, which exist in a wide variety of forms, and hence with very different levels of methodological quality, have been typically criticized for their problems of representativeness to the general public (Couper, 2000, pp. 464-466). Mainly due to their sampling design, and more specifically due to sampling difficulties, limited coverage and non-response, the representativeness of online polls to the general public is negatively affected. Before three relatively new forms of polling will be examined for their potential methodological influence on the poll results (push polls, online daily polls and the use of online access panels), methodological aspects related to the sampling design that may influence the degree of representativeness to the general mass public are considered.

4.2.2.1. Sampling

The implementation of sampling procedures may have important implications for the degree to which poll results are representative of a more general public. For example, Billiet (2003) considers the choice for a particular sampling method in a research situation, and the way it is implemented in reality the most essential criterion in judging the quality of a public opinion poll (Billiet, 2003, p. 7). The main distinction to be made with regard to sampling is between probability-based sampling techniques, such as simple or stratified random sampling, and non-probability based sampling techniques, such as self-selected or quota samples. The former are generally considered to produce poll results that are more representative of the general public than the latter. For example, in a quota sample, the quota for females are typically more easily filled with housewives than with working women, which may result in a sample that is not representative to the mass public for gender (Gawiser & Witt, 1994, pp. 66-67; Butler, 2007). Other non-probability based sampling strategies which may result in samples that do not represent the general public are currently related to the use of the Internet as a method of data collection (Couper, 2000, p. 476). Especially in the case of self-selected samples through the Internet, representativeness is an essential problem, because the initial selection chances of the respondents are unknown. Consequently, also sampling error, or the degree to which a sample-based estimate differs by chance from the population figure, cannot be calculated (Billiet, 2003).

4.2.2.2. Coverage

Closely related to sampling is the problem of coverage error which occurs when not all the elements of the survey population have an equal or known non-zero chance of being sampled for survey participation. This is mostly due to the frame that is used from which people are sampled (Dillman, 2000, pp. 9-11). Accurate sampling frames are lists that comprise all persons of the population of interest (Butler, 2007, p. 59). In survey research practice, however, such lists are not always available, because they simply do not exist (e.g. listings of all Internet users) or because they can not be used for privacy reasons (e.g. medical listings). Coverage error then is primarily caused by a divergence between the target population and the frame population (Couper, 2000, p. 476). For example, a sample drawn from a list of residential telephone numbers would probably miss a substantial number of people of the general public because of the increased use of cell phones. Especially for Web-based polls, coverage is a problem since a list of all the units of the Internet population in a particular country does not exist. Moreover, not all people own a computer, have access to the Internet and/or have a personal e-mail address. Whereas this is a minor problem for Web surveys aiming to represent only Internet users or certain populations in organizations in which all persons have Internet access and e-mail addresses, this is a major problem for Web surveys aiming to represent the general public (Dillman, 2000, pp. 354-356). Furthermore, not only the proportion of people who can be reached by the survey, but also the extent to which those who are reached differ from those who are not reached may influence the poll results (Dillman 2000; Couper, 2000).

4.2.2.3. Non-response

An additional source of error that may bias the opinion distribution obtained concerns non-response or the percentage selected respondents who did not participate in a particular poll. Non-response error arises because not all persons selected for the sample completed the survey, because they did not want to or were not able to. Non-response error is most problematic when a large number of people who do not respond the survey are different from those who do respond, with regard to characteristics that are relevant to the particular study (Dillman, 2000). Since personal characteristics such as education, gender and age are supposed to be related to the survey participation rate, it can be contended that generally most opinion polls have to deal with a certain amount of non-response error (Billiet, 2003, pp. 7-10). However, the problem of non-response is especially difficult to identify for Web surveys, as there are several stages at which non-response error can occur. The first discrepancies may arise between the target

population and the operational population because of differences in Internet access and actual use of the Internet. Furthermore, only a certain number of people from the frame population will actually be reached through the Internet or via e-mail addresses. From those, a number of people will read the message and will subsequently decide whether they participate in the poll. Then, there are the clickers who locate the Web survey page, the starting units who start reading the questions, the partial respondents who only answer an initial block of questions and finally the complete respondents who complete the entire Web questionnaire. Between all these stages, error can occur (Vehovar et al., 2002, pp. 230-239). As a result, the actual group of complete respondents may substantially differ from the general public.

4.2.3. Selection of three case studies

Problems related to the sampling design, such as sampling difficulties, limited coverage and non-response are important sources of bias in poll results which determine whether and to what degree poll results represent the general population (Dillman, 2000). This is important because an aggregation of mass opinion can only be used as the passive form of public opinion if opinions are measured by an unbiased questionnaire and a sample that is representative of the mass public (Page, 2006; Bryce, 1966; Kepplinger, 2008). The observation in the empirical study of Flemish newspaper articles about polls that the methodological disclosure of opinion polls and the critical expression of methodological poll judgment was quite limited (cf. Subsection 2.4.4) enhances the importance of methodologically high-quality opinion measurement by polls.

In order to examine the influence of the poll measurement on poll results, and thus, to what degree the polls can represent passive mass opinion, it was primarily focused on polling phenomena that occurred relatively recent, and perhaps more importantly, which are nowadays used to give an indication of public opinion (e.g. by media), but for which methodological influence on the poll results can be expected. Such influence on the poll results due to methodology implies that they cannot represent the opinions of the general public, or in other words passive mass opinion. The three polling methods under study are, respectively, push polls, online question-of-the-day polls and online access panel polls.

First, the technique of push polling is selected to discuss, as it has been generally considered a highly problematic method of polling the opinions of the mass public.

Especially in the US, this kind of push polling has been frequently used by political consultants, who do not wish to measure political preferences, but to sway opinions by providing negative, though hypothetical information under the pretext of academic survey research (NCPP, 05.1995; Streb & Pinkus, 2004, p. 95). The question is whether it might be used in the Belgian/Flemish political context as a new polling technique during elections. Because of the *deliberate* use of push polls to influence opinions, in addition to a methodologically flawed survey design, it is highly relevant to consider this polling technique in general and, in particular its potential use in Flanders.

Second, online question-of-the-day polls that can be found at the Websites of Flemish news media are selected to examine more closely. Due to an ad hoc questionnaire, which is formulated by the news media themselves, and a non-probability self-selection of Website visitors, online daily polls have generally not be considered as high-quality survey research (Streb & Pinkus, 2004). However, various news media in Flanders have implemented software at their news Websites to poll the opinions of their audience (e.g. at the Website of the quality newspaper *De Standaard*, and the popular newspaper *Het Nieuwsblad*, as well as the news Website of the public broadcasting channel *VRT*), of which the results are occasionally reported through offline news channels by using generalized terms such as 'the Flemish' or 'voters'[25]. As a result, a larger public can receive the daily poll information collected by the news media Website, which shows a particular opinion distribution that may not represent passive mass opinion due to methodological biases (Suhonen, 2001). Therefore, the online daily polling technique at the news Website of the Flemish quality newspaper '*De Standaard Online*' was described as an initial examination of possible effects due to distorted poll effects on opinions in Flanders.

Finally, the use of an online access panel to survey the opinions of the general public is selected to study in more detail. Methodological problems related to the Internet mode of data collection, such as non-coverage, as well as the non-probability selection of new panel members may have important implications for the survey results obtained (Couper, 2000; Dillman, 2000). It is particularly important to evaluate this polling technique methodologically, since various news media seem to report upon the results of online

[25] For example cf. *Gazet Van Antwerpen*, 08/08/2007, 'Franstalig "non" radicaliseert Vlamingen (French-speaking "non" radicalizes the Flemings)'; *Het Nieuwsblad*, 21/08/2007, 'Kiezers steunen Leterme & co (Voters support Leterme & co)'.

access panel polls or commission such polls themselves[26]. Because of this media-attention and media-involvement in such polls, the representativeness of online access panel poll results to the general public was empirically assessed by an evaluation of the weighting techniques most frequently applied to make the poll results more representative of the general public.

In the following sections, each of the three polling methods is generally defined and methodologically evaluated, in particular regarding the potential influence of their questionnaire and sampling design on the opinion responses obtained. As the online daily polls and online access panel polls have relatively recently emerged in Flanders, they were also investigated empirically by Flemish poll data.

4.2.4. Push polls

The first poll method selected to study more closely concerns the push polling technique. If opinion studies would be positioned on a continuum based on methodological quality criteria, academic survey research would be situated at one extreme end as methodological high-quality opinion surveys, while push polls would be positioned at the other extreme end, as methodological low-quality polls (Streb & Pinkus, 2004). This methodological low quality of push polls and the potentially great influence of the push poll methodology on the poll results imply that the individually-measured opinions by push polls may not represent the passive form of public opinion. However, this is not the purpose of the pollsters, who wish to influence opinions by providing people with false information. Therefore, the prevalence of push polls in the US has provoked discussions about the legitimacy of their use. The use of such push polls during elections might be a development to be followed by other countries. Especially because of its methodological flaws and potential influence, its possible introduction in Belgium, and more specifically Flanders is briefly discussed. To this end, push polls are generally defined and methodologically evaluated.

4.2.4.1. Definition of a push poll

Although a push poll is labelled as a 'poll', it can actually not be considered an opinion poll, because its main aim is not to measure people's opinions in an accurate way, but to contact as many voters as possible in order to create a positive impression of a particular

[26] For example, *Het Laatste Nieuws*, 06/05/2004, 'De Stemmenkampioen: eerste uitslagen (The Voting Champion: first poll results)'; *Het Nieuwsblad*, 05/12/2007, 'Onze iVOX-enquête (Our iVOX-poll)'.

political candidate and a negative impression of the political opponent. Thus, the main aim is to influence individual opinions and the general opinion climate, as well as the eventual voting behaviour. Although push polls are typically conducted under the guise of legitimate survey research, hypothetical information is used to 'push' opinions towards a particular candidate. In the US, this type of poll has become increasingly popular during political campaigns to degrade the political opponent, in addition to other persuasive campaign methods, such as television advertisements and direct mail. As a result, various organizations and legislators have attempted to limit the use of push polling techniques (Streb & Pinkus, 2004, p. 95-96; Sabato & Simpson, 1996, p. 27). Already in May 1995, the National Council on Public Polls (NCPP, 05.1995) warned the public by defining a push poll as follows:

> *« (…) a telemarketing technique in which telephone calls are used to canvass vast numbers of potential voters, feeding them false and damaging "information" about a candidate under the guise of taking a poll to see how this "information" effects voter preferences. In fact, the intent is to "push" the voters away from one candidate and toward the opposing candidate. This is clearly political telemarketing, using innuendo and, in many cases, clearly false information to influence voters; there is no intent to conduct research. »*

This definition closely resembles push poll descriptions by the American Association for Public Opinion Research (AAPOR, 2003), the American Association of Political Consultants (AAPC, 2005) and the Council for Marketing and Opinion Research (CMOR, 2005). These organizations describe a push poll as an 'insidious' form of negative campaigning, dishonestly presented as a political opinion poll, in which phone calls are used to sway opinions, rather than to measure them. During a very short telephone call, people are asked which political candidate they favour. If the client-candidate is chosen, the phone call is ended, because push polling is not considered necessary in that case. But if the political opponent is selected or the respondent is undecided, very negative, false and misleading statements about the particular candidate are expressed by the interviewer. Although mostly hypothetical questions are used, the impression is given that the negative information could possibly be true (AAPOR, 2003; CMOR, 2005; Sabato & Simpson, 1996, p. 28; Streb & Pinkus, 2004, p. 95). AAPOR (2003) gives the following typical example of a push poll question:

« Would you be more or less likely to vote for (name of rival candidate) if you knew he had avoided the draft / falsified his resume / been arrested / gone through bankruptcy / patronized prostitutes / failed to pay child support / failed to pay income taxes? »

Apart from this extremely negative form of push polling, Sabato and Simpson (1996) distinguish two other types of 'push polling', which they consider as more legitimate forms of opinion research. A first such poll type is the 'agenda-driven survey', which aims to gain a favourable election result for the client-candidate (i.e. to create a 'bandwagon' effect). To this end, biographical information that is biased against the opponent precedes a question on voting intentions. A second type of 'push poll' is the pre-test of positive and negative campaign themes. The aim of such a poll is to learn which themes might reduce public support for a political candidate. In contrast to the most persuasive push poll, neither of these poll types provides respondents with false political information (Sabato & Simpson, 1996, pp. 27-28; Feld, 2000; Steeh, 2007).

4.2.4.2. Methodology of push polls

By a traditional telephone method, as many voters as possible, who were not selected on a probability basis, are contacted to be polled by an ad hoc questionnaire, which consists of only one, or a very few questions. Those who commission and conduct push polls are mostly political marketers who wish to influence opinions during electoral times. However, the name of the pollster is typically not disclosed in the interview, or even a false name is provided. Furthermore, if more information about the poll is requested by the respondent, rather evasive answers are given (Steeh, 2007). The main problem with conducting push polls is the underlying *purpose*, which is not to measure individual opinions accurately, but in contrast, to influence opinions by using false information. There is no intention to assess how voters might respond to new political information or to determine evaluative judgments about political candidates. Instead, push polls are intentionally designed to persuade and to 'push' votes away from a particular candidate. Methodological problems of push polls, which may affect the opinion distributions obtained are related to aspects of both the questionnaire and the sampling design.

4.2.4.2.a. Questionnaire design

Regarding the questionnaire design, the political information that is provided to respondents is intentionally biased, and even false, in order to give respondents a negative impression of a political candidate. As a result, the opinion responses obtained

may be affected by the negative information provided within the poll context. More specifically, this information might influence what considerations (e.g. more negative) will come salient to the top of a respondent's head before answering the poll question. Furthermore, the questionnaire length of an ad hoc push poll is very short, as it is typically conducted within 20 to 60 seconds. Compared to methodological standards, such a short telephone interview cannot obtain high-quality survey data, especially because no demographic background information of the contacted people is additionally collected (Streb & Pinkus, 2004; AAPOR, 2003).

4.2.4.2.b. Sampling design

Regarding the sampling design of push polls, no probability-based random sample of respondents is selected. In contrast, push polls attempt to reach as many voters as possible, sometimes hundreds of thousands of people, of which in particular the undecided voters or supporters of the rival candidate are targeted to influence. Therefore, the sample size, or the vast number of contacted people is considered as the most important criterion, rather than the representativeness of the sample to the voting population.

Both the questionnaire design of push polls, which consists of a few biased questions based on false information, and the sampling design, which is non-probability based and merely focused on the sample size may influence the poll outcome. The former might affect the responses expressed, while the latter might influence the sample representativeness. Mainly because of the strong potential influence of the poll methodology on opinions, the use of push polls has been discussed by academic scholars (e.g. Fitzsimons & Shiv, 1999; Streb & Pinkus, 2004), as well as the major (American) public opinion research organizations. This discussion is considered next.

4.2.4.3. Discussion about push polls

Political consultants in the US seem to believe in the efficacy of push polls, mainly because of the prevalence of this persuasive polling technique in American campaigning. Fitzsimons and Shiv (1999) are one of the first, and few, who examined push polls more closely and found empirical evidence supporting the push poll 'effectiveness'. Based on theories about constructive mental processes, the scholars conducted two experiments: one in a voting context and one in a marketing situation. Their basic assumption was that the purely hypothetical questions used in push polls should have no actual effect on people's decision making processes (e.g. voting) because they consist of unfounded or

speculative pieces of information. However, their empirical tests showed substantially decreased voting rates for a political candidate if negative personal information was provided in the form of a hypothetical question. Therefore, they concluded that push poll questions may indeed influence opinions, despite their hypothetical nature (Fitzsimons & Shiv, 1999, pp. 1-34).

Most of the other academic references to push polls are very pejorative. The main problem is not that it is a persuasive campaign technique, but that it is conducted under the guise of legitimate survey research. Because this violates the code of ethics of the major (American) public opinion associations (e.g. AAPOR, AAPC, CMOR, NCPP), they have formally condemned the use of push polling. They contend that the 'thoroughly unethical' polling technique negatively influences the electoral process by giving a biased and even false impression of the political campaign process (AAPOR, 2005; AAPC, 2005; CMOR, 2005). For example, the AAPOR Councils have repeatedly warned their members, the public and the media about possible harm of the push polling technique. Furthermore, in 2005 the AAPOR ethical Code clearly identified the illegitimate push poll as 'unethical conduct' (Steeh, 2007). Similarly, scholars such as Streb and Pinkus (2004) consider push polling a 'devious and fraudulent' poll method, since the dissemination of inaccurate negative information about politics may not only encourage people's scepticism about survey research, but also the general level of political cynicism (Streb & Pinkus, 2004, pp. 112-113; 95).

Since potential effects of push polls on the public would be larger if the biased poll results would be widely disseminated by the media, the NCPP (05.1995) contends that these poll results should never be reported publicly. Another suggestion to limit the negative effects of push polls is clearly emphasizing the typical characteristics that distinguish push polls from legitimate surveys. Therefore, the major public opinion research organizations have published lists with the distinctive characteristics of push polls. The underlying motivation is that confusion between illegitimate and legitimate poll methods may discourage people from responding to survey research in general (Steeh, 2007; AAPC, 2005; CMOR, 2005). Additionally, in the US, active steps have been taken to create legislation against push polling (e.g. by CMOR, 2005).

4.2.4.4. Push polls in Flanders?

In contrast to the US, push polls have not been emerged in Belgium, or more specifically Flanders, to date. However, the question can be posed whether it is possible that this

push poll technique would be introduced in the Flemish electoral campaigning? Since most of the polling techniques currently used in Europe originated in the US (cf. Subsection 2.1), the same could be expected for the push poll technique. Especially because of the potential influence of push polls on opinions, it is a relevant question whether this polling technique is a recent development of a type of poll to be followed by Flanders. However, due to important differences between American and Flemish electoral campaigns, such a point of view needs to be refined.

Firstly, the amount of money spent on political advertising to influence voters' preferences is generally much higher in the US than in Flanders, where the maximum campaign money to be spent is legally determined since 1989 (Fiers & Reynaert, 2006, pp. 181-182; Belgisch Staatsblad, 04.07.1989)[27]. This does not mean that Flemish candidates do not take full advantage of the available campaign instruments, such as election posters and folders, television commercials and information on Websites. However, the more 'aggressive' campaign techniques, such as political advertising by direct e-mail or by text messages on mobile telephones are not (yet) widespread in Flanders. Therefore, it may be suggested that also push polling, by which hypothetically, but false, information is provided to voters, would not be immediately be used on a large scale.

Secondly, the American electoral context with a limited number of, mostly two, political candidates lends itself more to the use of push polls than the Flemish electoral context, in which a larger number of candidates are eligible, organized into different political parties. Therefore, it would be much more difficult to push voters' opinions to one particular candidate, purely by harassing all the political opponents. However, the push polling technique could be adapted to the Flemish situation, if for example political parties would be misrepresented as a whole, so that the entire group of individuals sharing a particular party ideology is discredited. Due to larger voting districts however, it may be possible that individual candidates become more prominent and hence that they may be

[27] For example, for the American Presidential election of 2008, all candidates raised more than 1 billion US dollars. In particular, the elected President of the US, Barack Obama spent 573 million US dollars during the 2008 election cycle, while John McCain spent 293 million US dollars (source: http://www.opensecrets.org/pres08/index.php; http://www.fec.gov/disclosure.shtml). In contrast, for the regional and European elections of 2004 in Flanders, though it concerns very different types of elections relative to the American presidential election, the Flemish candidates spent on average 2767 euros on campaign expenses. In the local elections of 2000, this average was even lower, with an average of 891 euros per candidate spent on the campaign. But in Belgium, the maximum campaign expenses are legally determined. For example for parliamentary elections, the maximum is 5000 euros for effective candidates and 2500 euros for the candidate-successor to be spent (Fiers & Reynaert, 2006, p. 182).

potentially degraded by the push polling technique. Thus, it remains to be seen whether a Flemish version of the American push poll will be introduced in the future.

4.2.4.5. Summary of push polls

The definition of a push poll and its methodology clearly indicates that push poll results cannot represent the passive form of public opinion. The ad hoc biased, though hypothetical, questionnaire could influence people's considerations on the basis of which a response is expressed at the moment of the poll by telephone, and these considerations might be remembered afterwards (e.g. at the moment of voting). Thus, the main aim of push pollsters is to influence individual opinions, the general climate of opinion, as well as the voting behaviour. Additionally, the non-probability based selection of respondents may influence the representativeness of the poll results to the mass public. However, although push polls are conducted under the guise of academic survey research, the pollsters (mostly political marketers) are not at all concerned with accurately measuring people's opinions. Instead, they wish to sway, or 'push', opinions towards a political candidate. Because of this potential influence on opinion responses during the survey due to a flawed questionnaire, as well as the potential influence of push pollsters on opinions held after the survey, the possible introduction of this polling technique in Flanders should be monitored closely and regarded with suspicion. To date, the push poll technique has not been introduced in Flanders, though an adapted version that matches the specific electoral features might be used as an additional campaign instrument.

4.2.5. Online question-of-the-day polls

The second polling technique studied is the question-of-the-day or online daily poll, which emerged relatively recent at the Websites of several important news media in Flanders[28]. Especially because of the high media-involvement in commissioning and conducting this type of online polls, it is considered relevant to examine it in more detail. The opinion distribution that is obtained may be influenced by two major factors: the news media formulation and presentation of the poll question, as well as the online self-selection of respondents. Thus, both the questionnaire and sampling design, which are implemented by the news media, may affect the aggregated sample of opinion responses, and hence

[28] In 2004, the first online daily polls appeared at the websites of the newspapers edited by 'Corelio', namely '*De Standaard*', '*Het Nieuwsblad/De Gentenaar*' and '*Het Volk*'

the indication of passive mass opinion that is shown on the Website, and which is occasionally also used in offline news-media channels.

First, the online daily poll method at news media Websites is defined and methodologically evaluated, after which this polling technique is described on the basis of data from an important Flemish quality newspaper (*De Standaard Online*). The main aim of this study is to describe the way in which this quality newspaper uses the online daily polling method to monitor the opinions of the public and what influence the methodology may have on the poll results obtained.

4.2.5.1. Definition of an online question-of-the-day poll

An online 'question-of-the-day' poll poses daily, or at least very regularly an ad hoc question at a Website to be answered by Website visitors. Such a poll can be labelled as an 'ad hoc' poll (Barnett, 2001, pp. 299-301), or an 'issue/agenda'-poll (Suhonen, 1997, p. 221), because it consists of a particular social, political or economic issue question that is of topical interest at a particular moment. In the present study, the focus is on daily poll questions at the Websites of Flemish news media. It usually takes the following form:

« *Do you agree with [e.g. a proposed bill, a current news item]?*
O Yes
O No
Respond or see results »

Website visitors can voluntarily participate in online daily polls at news-media Websites by selecting one of the answer categories predetermined by the news media. Not only after, but also before answering the poll question, respondents can have a look at the most recent, but preliminary, poll results. These results are usually presented in diagrams, which include the response proportions of each answer category and the number of responses registered so far. Showing this information to potential respondents might influence their decision whether or not to answer the online daily poll question, as well as the saliency of particular considerations when expressing the opinion response.

Based on Couper's typology of Web surveys (2000, p. 477), which is shown in Table 4-1, several types of Web surveys can be distinguished based on their methods of selecting respondents. Accordingly, a question-of-the-day poll at news-media Websites should be defined as a non-probability based, and more specifically self-selected Web survey that

primarily aims to entertain. Concerning this 'instant' online poll type, Couper argues that as long as the poll results are not misused, there is no threat to legitimate surveys. But it is highly recommended that the news media should state the explicit aim of entertainment, as well as stress the low methodological quality and deny any claim of representativeness (Couper, 2000, pp. 477-478). However, a first look at the Flemish news media Websites seems to suggest a general absence of any methodological note concerning the poll's aim or sample limitations. In order to have a better understanding of the particular methodological limitations of the online question-of-the-day polling technique, and how these might influence the poll results, the methodology of the polling technique is discussed next.

Table 4-1: Typology of Web surveys

Non-probability based methods:
Type 1: Online polls / Web surveys as entertainment
Type 2: Unrestricted self-selected Web surveys
Type 3: Volunteer panels of Internet Users, opt-in panels
Probability-based methods:
Type 4: Intercept surveys
Type 5: List-based samples of high-coverage populations
Type 6: Web option to complete the survey in mixed-mode designs
Type 7: Pre-recruited panels of Internet users
Type 8: Pre-recruited panels of full population

Source: Couper, 2000, p. 477

4.2.5.2. Methodology of online question-of-the-day polls

The online daily polls at news media Websites are commissioned and conducted by the news media themselves. Especially the short fieldwork period, which could be only one day, and the very low cost of the implementation of the software by which regularly polls can conducted may be important factors for the news media to produce every day topical news (cf. Subsection 2.4.3). Indeed, that this polling technique appeared on the Flemish news media Websites indicates that such polls can match the daily and timely news rhythm very well. However, the major methodological deficiencies of online question-of-the-day polls are related to the ad hoc questionnaire design with typically a single poll question and the self-selective sampling design. Both are successively considered.

4.2.5.2.a. Questionnaire design

Regarding the questionnaire design of online daily polls at news media Websites, the major problem is the use of a single ad hoc question, as it is generally assumed that a single question cannot adequately tap the multiple underlying meanings of an issue (ESOMAR/WAPOR, 2005; AAPOR, 2005). The single ad hoc question of an online daily

poll typically takes the form of a close-ended question with a limited number of answer categories. Consequently, the news media may play an important role, as they design the ad hoc questionnaire themselves by formulating the exact wording of the question, as well as deciding on the number, order and content of the answer possibilities.

Scholars such as Bishop (2005) and Butler (2007) contend that those who design a poll's questionnaire may 'construct', deliberately or not, a particular poll context, in which the question will be interpreted by the respondents. As a result, poll designers may create a subjective frame of reference in which respondents express their opinion response (Bishop, 2005; Butler, 2007). For news media, this means that they may 'frame' the poll question according to current news items or their interpretation of recent events. An indication of such framing can be the provision of additional information to introduce the actual poll question. In this way, the poll question is situated in a particular context, framed by the news media. Consequently, the methodological decisions of the news media regarding the questionnaire design may affect the opinion responses obtained.

It can be referred to Zaller's RAS-model, and more specifically his 'Accessibility'-axiom (1992, pp. 42-52), according to which an opinion response would be expressed depending on the extent to which information is accessible in memory to answer the poll question. If the poll question is framed by the news media in a particular way, it provides people easy access to information that may be used in expressing their response. In other words, the question context specified by the news media may influence which considerations are made salient to the respondents at the moment of answering the online question-of-the-day poll. As a result, it is possible that Website visitors create a poll response on the spot without having a deeper and more stable underlying opinion about the issue. Although this does not necessarily mean that people answer the question completely at random, like flipping a coin (cf. Converse's non-attitudes, 1964; cf. Subsection 3.1.2), it is possible that the context of the online question-of-the-day poll affects the opinion responses expressed.

4.2.5.2.b. Sampling design

Apart form the questionnaire design, another major influence on the poll results may be the sampling design of online daily polls, as it is entirely self-selected. Since Website visitors voluntarily choose whether or not to participate in the online daily poll, it is not possible to calculate their chance of being selected. Therefore, the poll results cannot be generalized to a more general population. This lack of representativeness is an important

criterion on the basis of which the online question-of-the-day polling technique would be classified as an inappropriate instrument to monitor the passive mass opinion (Billiet, 2003, p. 7; ESOMAR/WAPOR, 2005; AAPOR, 2005).

In addition to the self-selectiveness, two other aspects may affect the sample obtained and its representativeness to the general public, namely non-coverage and non-response. First of all, like any other Web-based survey, online daily polls have to deal with coverage error, as only those who have Internet access can potentially respond. In addition, there are different stages at which people can decide whether or not to respond (which leads to non-response error). People with Internet access have to visit the news media Website, read the poll question and subsequently decide that they will answer it by selecting one of the provided answer categories. Since typically little or no background information is collected from neither the respondents, nor the non-respondents (e.g. people who read the poll but decide not to participate), it is mostly impossible to have any indication of the respondents' profile. As a result, potential non-response biases can generally not be corrected by weighting techniques.

4.2.5.3. Research design of the case study

As little is known about the online question-of-the day polling technique at Flemish news media Websites, the case study will primarily focus on describing this polling technique by registering the information that can be collected from the news-media Website of *De Standaard Online*. The next section motivates this selection of the news-media Website from an important Flemish quality newspaper, but first some general questions are formulated.

Based on this information three explorative questions are addressed. First, what kind of poll subjects are most frequently polled by the online question-of-the-day polls at this Flemish newspaper Website? Second, what type of poll questions are most frequently used, and specifically what number of answer possibilities are usually provided? And additionally, to what degree is the single ad hoc question framed by the provision of additional background information prior to the actual opinion question? Addressing these questions gives information regarding the potential influence of the questionnaire design on the poll results, since the opinion distribution obtained may be influenced whether a dichotomous poll question is asked, or a third answer possibility is provided, as well as whether or not additional information is provided about the question, which may influence the respondent's considerations in expressing a poll response. Third, regarding the

potential influence of the sampling design on the poll results, the only question that could be addressed is how many respondents select themselves through the Website to participate in the question-of-the-day poll and whether weighting techniques were applied to the results obtained.

4.2.5.3.a. Data selection and collection

Since the Flemish news media seem to be closely involved in the conduct of question-of-the-day polling through their news Websites, it was initially reviewed how many and which news media in Flanders use the online daily poll technique at their Website. It was found that the first news media that implemented this poll technique at their Websites were the newspapers published by the editor VUM/Corelio[29], namely *De Standaard*, *Het Nieuwsblad/De Gentenaar* and *Het Volk*[30]. These newspapers have (almost) daily polled the opinions of their respective Website visitors since May 2004. From that moment on, increasingly more news media Websites started to conduct their own online daily polls. Additionally, such online polls have occasionally appeared at the Websites of the newspapers *Het Laatste Nieuws* and *De Morgen* (both published by De Persgroep). On a more regular basis, the newspapers *Gazet van Antwerpen* and *Het Belang van Limburg* (both published by Concentra) have used this online poll method. From January 2006, also the public television channel *VRT* has conducted online question-of-the-day polls at their news Website, following the opinion polling at the Website of the commercial television channel *VTM*. This illustrates the recently emerged and seemingly growing interest of the Flemish news media in conducting online daily polls at their Websites to monitor the opinions of their audiences.

From the Flemish news media that have used the online question-of-the-day poll on their Website, *De Standaard Online* was selected to examine in more detail. First of all, this newspaper was chosen because it was one of the first Flemish news media that began to conduct online question-of-the-day polls at their Website in 2004 (e.g. *VRT* followed only in 2006). Therefore, selecting this newspaper made it possible to collect over-time data about the use of this polling method in Flanders as early as 2004. Moreover, *De Standaard* is the only Flemish *quality* newspaper that has used the online daily poll technique on a very regular basis. Indeed, the two other Flemish quality newspapers *De Morgen* and *De Tijd* have used such polls much less frequently, or not at all, respectively.

[29] VUM stands for Vlaamse Uitgeversmaatschappij (Flemish Publishing Company), which changed its name into Corelio as from 01/09/2006.
[30] The newspaper '*Het Volk*' merged with '*Het Nieuwsblad/De Gentenaar*' as from 10/05/2008.

Although also the public television channel *VRT* conducts online daily polls at their news Website, they do not have a comprehensive online poll archive that is publicly available through their Website, such as *De Standaard* has. Furthermore, *De Standaard Online* is one of the few Websites where respondents have to register first before they can participate in the question-of-the-day poll, after which they use their personal log-in (e-mail and password) to answer the online daily poll questions. In this way, it is verified that each unique person can give only one opinion response per poll question, though this could be bypassed by registering under a different name. The personal information that is collected from the potential poll participants upon registration is name, home address, telephone number, e-mail, gender and date of birth. Additionally, people are also asked about their reading behaviour, namely what newspapers the respondent's household buys and with what frequency. Although this background information could be useful for gaining insight into the respondents' profile, it was not possible to obtain such privacy-sensitive information from *De Standaard Online*. The general editor of the online newspaper at that time (2006) argued that the newspaper collected this information to monitor the 'one-man-one-vote' principle, but that they did not use the information for other purposes, such as for weighting the samples obtained[31].

In order to study the question-of-the-day polls at the news-media Website *De Standaard Online*, a similar time period of four months (1 September – 31 December) was selected in four subsequent years: 2004, which was the first year of conducting the online daily polls, 2005, 2006 and 2007. In this way, polls conducted in the same period of the year could be compared over several years. Although the online archive of *De Standaard Online* ended registering the exact poll date after August 2005, it was possible to specify the poll moment on the basis of the poll subject and the exact question, as it is often related to specific events of which the date is known. Therefore, the limits chosen for the time period were September 1 which marks the beginning of a new school year, and December 31 which marks the end of the civil year, because the online question-of-the-day polls mostly referred to these specific dates.

The data selection of the question-of-the-day polls which appeared at the Website of *De Standaard Online* between September 1 and December 31 during four successive years between 2004 and 2007 resulted in a database of 506 online daily polls. The absolute number of question-of-the-day polls conducted increased from 73 polls in 2004, to 133 in 2005, 157 in 2006 and 143 in 2007. Although only a limited number of years were

[31] Based on personal interview with Mr. Henk Tack (21/12/2006).

studied, the absolute increasing use of online daily polls between 2004 and 2007 could be an indication of the newspaper's growing interest in conducting regularly such online polls themselves. This is in line with the observations about a growing use of online poll publications in Flemish newspapers reported in Chapter 2.

4.2.5.3.b. Coding instrument

To systematically collect the online daily poll-data from the online archive at the Website of the Flemish quality newspaper *De Standaard Online*, a database was created in which the online daily polls formed the units of analysis. The variables registered for each online daily poll were based on the following information that was available through the online daily poll archive of *De Standaard Online*: the exact question wording of the poll, the response options provided to the respondents, the percentage distribution by each answer category and the total number of registered responses per question-of-the-day poll. In addition, the poll subject was classified as electoral or general issue, which was post-hoc categorized in a broader theme. Furthermore, Butler's (2007) distinction between action-oriented and judgment-oriented polls was used. Butler classified polls as action-oriented if the main objective is to measure people's (intention to) behaviour or the likelihood of a certain action, or as judgment-oriented if the aim is to measure opinions by asking personal preferences, perceptions and judgmental evaluations. Although in practice, people's actions and judgments are often intertwined, this distinction can be made with regard to poll types (Butler, 2007, pp. 49-50). For example, a typical polling experience is that more people say they approve a political candidate's performance than they would actually vote for that person. A possible reason for this might be that pre-election polls that measure voting intentions have an inherent behavioural component, namely the intention to vote that precedes the actual act of voting, while judgment-oriented polls ask people's personal judgments without the feeling of acting on them (Crespi, 1989, pp. 65-66). Table 4-2 provides an overview of the coding instrument.

Table 4-2: Summarized coding instrument: variables & coding descriptions

General poll information	
Poll subject	The poll subject was classified as 1/ electoral, if vote intentions or popularity rankings of candidates were asked; 2/ general, if other topics were polled
Poll theme	The specific poll subject was classified in one of the following broader themes: 1/ Government, Political parties, Public service; 2/ Economy; 3/ Work and Education; 4/ Health and Environment; 5/ Justice; 6/ Traffic and Mobility; 7/ Media and Communication; 8/ Family and Living; 9/ Leisure, Sports, Culture; 10/ International Affairs; 11/ Other
Degree of action	The degree of action in the poll subject and question was registered as 1/ action-oriented, if the poll question was about (intention to) behaviour or facts; 2/ judgment-oriented, if the poll question was about opinions, judgmental evaluations
Questionnaire	
Poll question	The poll question, with its exact question wording was registered
Number of answer categories	The number of answer categories was registered as 2 / 3 / >3
If 2 answer categories: percentage distribution	If there were only 2 answer categories, the percentage distribution was classified in one of the following categories, based on the exact percentages: 50-50% / 40-60% / 30-70% / 20-80% / 10-90%
Poll context	It was registered whether additional information on the poll issue was provided that preceded the actual poll question: 1/ yes; 0/ no
Sampling	
Sample size	The total number of respondents was registered per poll

4.2.5.4. Description of online question-of-the-day polls at Flemish news media Website 'De Standaard Online' between 2004 and 2007

In this section, the main findings are presented from the descriptive study of online question-of-the-day polls at the quality newspaper Website *De Standaard Online* conducted between September 1 and December 31 of four successive years between 2004 and 2007. First, general poll characteristics are presented, after which the questionnaire and sampling design are discussed.

4.2.5.4.a. General poll characteristics

First of all, the question is addressed what poll subjects have been most frequently polled by the online question-of-the-day poll at the newspaper Website studied. More specifically, the online daily polls were categorized as action-oriented, if the questions referred to actual behaviour (e.g. 'Have you ever used drugs') or an intention to behaviour (e.g. 'Do you intend to go on strike'). Factual questions were also registered as action-oriented polls (e.g. 'Do you own a computer'). In contrast, polls were categorized as judgment-oriented, if they explored opinions, perceptions or judgmental evaluations (e.g. 'Do you agree'). As Table 4-3 indicates, on average 68 percent of the question-of-the day polls studied consisted of judgment-oriented opinion questions. During the time

period studied, the use of judgment-oriented polls increased, compared with action-oriented polls. In 2004, about half (53%) of the conducted polls asked about judgmental evaluations and the other half (47%) was about people's (intention to) behaviour or facts. In 2007, by contrast, the judgment-oriented polls clearly dominated (81%) the action-oriented polls (19%). Indeed, especially in this last year studied, the evaluative opinion questions were more frequently asked than in the other years. This might be an indication that monitoring the opinions and judgments of the public becomes more important than exploring behaviour and facts, although further research on later years would be required for this.

Table 4-3: Degree of action, percentage (n) of online daily polls per year

Degree of action	2004 (n=73)	2005 (n=133)	2006 (n=157)	2007 (n=143)	2004-2007 (n=506)
Judgment-oriented	53.42 (39)	63.16 (84)	66.24 (104)	81.12 (116)	67.79 (343)
Action-oriented	46.58 (34)	36.84 (49)	33.76 (53)	18.88 (27)	32.21 (163)

To gain further insight into the subjects polled by the question-of-the-day poll, a distinction was made between electoral poll subjects, if voting intentions or popularity rankings of political candidates were polled, and general poll subjects, if other, non-electoral issues were polled. It was found that, on average, merely two percent of the question-of-the-day polls studied were classified as electoral. This percentage varied only slightly between the years 2004 and 2007. Thus, the majority of the online daily polls at *De Standaard Online* Website explored non-electoral, general issues. To have an idea of the specific issues polled by the question-of-the-day poll, the poll subjects were further classified into eleven broader themes, which is shown in Table 4-4.

As can be seen from Table 4-4, the frequency with which a particular theme was explored by the online question-of-the-day polls differed between the years. For example, in 2005, the most frequently polled issues by the online daily poll method were about work and education (19.5%; n=26), as well as economy (18%; n=24); whereas in 2007, a particularly high percentage of online daily polls (33%; n=47) was related to issues about government, political parties and public services. This difference in poll issues over the years might be an indication that especially *current affairs* were polled by the question-of-the-day. This is not surprising, given the high news-media involvement in the commissioning and conducting of those polls, and hence, their involvement in the choice for a particular poll topic depending on the newsworthiness of the moment. In 2007, for example, the rather remarkable political situation after the Federal Belgian elections held in June (i.e. months without government, followed by an interim-government) could explain

why in that year an overrepresentation of issues related to government and political parties was observed. Although a more detailed event-analysis of news headlines should be used to make more sound conclusions about links between the poll subjects and newsworthy current affairs, it may be assumed that news media select especially newsworthy issues to be polled by their online question-of-the-day poll.

Table 4-4: Poll theme based on subject, percentage (n) of online daily polls per year at *De Standaard Online* between 2004 and 2007

General theme	2004 (n=73)	2005 (n=133)	2006 (n=157)	2007 (n=143)	2004-2007 (n=506)
Government, Political parties, Public service	8.22 (6)	5.26 (7)	14.65 (23)	32.87 (47)	16.40 (83)
Economy	8.22 (6)	18.05 (24)	19.11 (30)	10.49 (15)	14.82 (75)
Leisure, Sports, Culture	17.81 (13)	17.29 (23)	14.01 (22)	9.09 (13)	14.03 (71)
Work and Education	8.22 (6)	19.55 (26)	11.46 (18)	7.69 (11)	12.06 (61)
Health and Environment	17.81 (13)	9.77 (13)	10.83 (17)	9.09 (13)	11.07 (56)
Media and Communication	9.59 (7)	12.78 (17)	12.10 (19)	6.99 (10)	10.47 (53)
Justice	1.37 (1)	4.51 (6)	3.18 (5)	13.29 (19)	6.13 (31)
International Affairs	12.33 (9)	3.76 (5)	5.73 (9)	2.80 (4)	5.34 (27)
Family and Living	5.48 (4)	2.26 (3)	5.73 (9)	2.80 (4)	3.95 (20)
Traffic and Mobility	9.59 (7)	5.26 (7)	1.27 (2)	4.20 (6)	4.35 (22)
Other	1.37 (1)	1.50 (2)	1.91 (2)	0.70 (1)	1.38 (7)

4.2.5.4.b. Questionnaire design

Apart from the general characteristics of question-of-the-day polls, methodological aspects regarding the poll's questionnaire were registered, namely the number of response categories provided at the Website, the percentage distribution obtained by each response category and the provision of additional information preceding the actual poll question. These elements may contribute to the 'creation' of a particular poll context in which respondents express their opinion responses, and therefore may influence the poll results shown at the Website. It was found that on average 85 percent of the question-of-the-day polls collected from the *De Standaard Online* Website consisted of a dichotomous question, with only two answer categories. Thus, the large majority of these polls had a close-ended dichotomous question format. An additional third category (e.g.

middle alternative) or more than three answer possibilities were observed to a much lesser degree.

If only two answer possibilities were provided, the most frequently used dichotomy was 'yes-no' (93% of all dichotomous questions). In the case of three or more answer categories, a middle alternative (e.g. 'neither agree, nor disagree') or an option like 'don't know' or 'not applicable' to filter uninformed opinions was only very rarely observed. It might be suggested that people who voluntary choose to answer the daily poll question have an opinion to be expressed about the particular poll issue. By providing the respondents mostly with only two answer possibilities, a dichotomous divide of opinions in the public may be stressed, with a group of people who seems to agree with the opinion question, besides another group who seems to disagree. Such a dichotomous divide of opinions cannot show nuances in the opinion distribution, which would however resemble more closely the actual distribution of opinions in the mass public (Butler, 2007; Bishop, 2005). To have an idea of the opinion distributions obtained with the dichotomous online daily poll questions, Table 4-5 presents information about the response percentages distributed over the two answer categories.

Table 4-5: Percentage distribution of poll results, percentage (n) of online daily polls per year (only dichotomous questions)

Percentage distribution (2 answer categories)	2004 (n=55)	2005 (n=116)	2006 (n=123)	2007 (n=134)	2004-2007 (n=428)
50-50%	9.09 (5)	14.66 (17)	9.76 (12)	6.72 (9)	10.05 (43)
60-40%	30.91 (17)	27.59 (32)	30.08 (37)	34.33 (46)	30.84 (132)
70-30%	29.09 (16)	26.72 (31)	28.46 (35)	23.88 (32)	26.64 (114)
80-20%	16.36 (9)	17.24 (20)	21.95 (27)	24.63 (33)	20.79 (89)
90-10%	14.55 (8)	13.79 (16)	9.76 (12)	10.45 (14)	11.68 (50)

Table 4-5 shows that in the case of dichotomous question-of-the-day polls, the opinion responses were, on average, most frequently distributed over the two provided answer categories as 60-40% or 70-30%. Both the most extreme percentage distribution 90-10%, and the least discriminative answer distribution 50-50% were less frequently obtained by the dichotomous question-of-the-day polls. It should be noted that these figures refer to the percentage distributions obtained, without disclosing the direction in the opinion responses (e.g. agree or disagree with a poll question).

Apart from the number of response options and the percentage distribution obtained, another important element that may create a particular poll context is the provision of additional information preceding the actual poll question. A typical example is: '*The party's head of CDH unanimously decided in favour of government participation. Thus,*

the interim-government of CD&V, Open VLD, PS, MR and CDH can take the oath. Do you have confidence in this interim-government?'. In this example, the general opinion question about trust in the government was preceded by specific information concerning the current political situation at the moment that the poll was conducted. This is a typical illustration of how the poll context can be explicitly framed by the news media, which may in turn have an effect on the saliency of particular considerations at the top of the respondent's head when expressing an opinion response. Therefore, it was registered how often the Flemish quality newspaper *De Standaard Online* provided additional information that preceded the actual online daily poll question. It was found that 72 percent of all online daily polls were introduced by additional information on the poll subject. This was especially the case in 2007 (94%), compared to the other years under consideration (on average 64%). This provision of additional information before the opinion question might have influenced the context in which the poll question was answered by the respondents.

4.2.5.4.c. Sample size

In addition to the questionnaire design, the sampling design of the online daily polls conducted by *De Standaard Online* Website was considered as another source of methodological influence on the opinion distributions obtained. As aforementioned, these online daily polls have to deal with error, which is mainly due to sampling, non-coverage and non-response. The respondents of the online daily polls are entirely self-selected, because only those who have Internet access and visit the Website of *De Standaard Online* can subsequently decide whether or not to answer the question-of-the-day poll. Due to this self-selection, it is impossible to calculate the chance of being selected. Moreover, as no additional background information about the respondents was accessible, the only indicator of the sampling design that could be used was the sample size obtained, or the number of respondents who participated in the online daily polls. Table 4-6 presents information about the average number of respondents and its range per year.

During data collection, it was observed that the number of respondents was generally much higher in the year of 2007. Further inspection of the polling method at the Website revealed that from that year on the online question-of-the-day poll remained much longer accessible to be answered than in the previous years. Therefore, the number of respondents in the year of 2007 cannot properly be compared with the other years under study. Between 2004 and 2006, the average number of respondents did not seem to

have increased. A particular observation is that the minimum number of participants was lower in 2005 (45) and 2006 (157), than in 2004 (655). Although there is no minimum number of respondents which should be reached in order to have a sample that is a better representation of the general public, it could be argued that in the case of online daily polls the larger the sample size the better, though this should not be seen as the only possible quality indicator. But, the minima observed of 45 or 157 respondents participating in an online daily poll might show a very biased indication of mass opinion, as it comprises the opinions of only a small, and perhaps very particular, group of people. Due to data limitations, however, it was not possible to examine the respondents' profile on the basis of background information about them.

Table 4-6: Sample size (mean, median, range) of online daily polls per year

Sample size	2004 (n=73)	2005 (n=133)	2006 (n=157)	2007 (n=143)	2004-2007 (n=506)
Mean	2030	1294	1573	*3119*	2003
Median	1849	1263	1525	*2902*	1728
Range [Min-Max]	[655-5330]	[45-6597]	[157-5856]	*[322-13382]*	[45-13382]

4.2.5.5. Summary of question-of-the-day polls

The description of the online question-of-the day polling technique at the quality newspaper Website *De Standaard Online* has shed light on the general characteristics of the online daily poll that Flemish news media have relatively recent implemented at their Websites. It was shown that between 2004 and 2007, more judgment-oriented poll questions have been asked, exploring personal judgments, rather than (intentions to) behaviour and facts. Furthermore, it was suggested that especially current affairs are polled by this online instant polling device. In this way, daily new poll results about a timely topic can be produced. However, the newspaper's implementation of the questionnaire design, which mostly consists of a single, ad hoc, dichotomous question preceded by contextual information; as well as the sampling design, which results in a self-selection of Website visitors, may affect the opinion responses obtained, and hence, the indication of opinions presented at the news media Website. Precisely because of such potential influence of the poll methodology on the poll results, scholars like Couper (2000, pp. 477-478) argue that the news media should stress the low methodological quality and deny any claim of representativeness. However, at the Flemish news media Websites in general, and more specifically at *De Standaard Online* Website, there is no accompanying methodological note about the limitations of the online daily poll methodology.

4.2.6. Online access panel polls

The third poll method examined more closely, because of its potential methodological influence on the poll results, concerns the online access panel poll. It is a specific type of Web surveys that seems to be increasingly used to measure the opinions of the public. Overall, opinions of the mass public are frequently polled through the Internet. The enormous possibilities for electronic surveys, combined with a significant reduction of time and cost make Web-based self-administered surveys very attractive for various organizations to carry out (Dillman, 2000, pp. 7-8). Therefore, a further increase in online surveys can be expected, because of continuous technological progress, the rising penetration of the Internet in everyday life, and a massive increase in Web usage (Vehovar et al., 2002, p. 229).

The choice for an online access panel to monitor the opinions of the mass public, however, may have important implications for the poll results obtained and the interpretations that can be based on them. Although strictly speaking, these poll results can only be representative of the specific group of online access panel members, the question can be posed how representative the obtained results are of the *general public*. This is an important question to address, because there is a general impression that online access panels are increasingly used, often commissioned by the news media, of which the results might be used as an indication of the passive mass opinion (e.g. 'the Belgians'). Therefore, an empirical study was performed in order to gain insight into the influence of the methodology of online access panel polls on the results obtained, and more generally, into the usefulness of such polls to obtain a relevant indication of the passive mass opinion. It can be expected that an online access panel is composed of people familiar with the Internet and willing to regularly spend some time filling out online surveys. Therefore, it is important to study the degree to which this specific group of online access panel respondents differs from the general population in socio-demographic terms, as well as with regard to attitudes about various societal themes.

Couper (2000, pp. 482-484) argues that 'it is most problematic when surveys based on volunteer panels of Internet users claim they are representative of a more general public'. It is often assumed that, because a large number of respondents can be reached through the Internet with little effort and at low cost, the survey is representative of the general population, or can be weighted in a way it becomes representative (Dillman, 2000, pp. 354-356). However, online access panel surveys typically have to deal with bias, which is

primarily caused by limited Internet coverage and self-selection in the recruitment phase of new panel members. In order to overcome these problems, weighting procedures based on post-stratification variables and/or propensity scores are frequently applied to the online access panel sample. The question is whether these frequently used weighting adjustments make online access panel data more comparable to traditionally obtained survey results of the general public. To address this issue, answers to identical questions were compared between an online self-administered survey of previously recruited online access panel respondents and a face-to-face survey of randomly sampled respondents of the general (Flemish) population. But before the main results of this comparison are presented, a definition and a general methodological evaluation of opinion polling by online access panels are provided.

4.2.6.1. Definition of an online access panel poll

Following Couper's typology of Web surveys (2000, p.477), shown in Table 4-1 (cf. Subsection 4.2.5.1), several types of Internet panels can be distinguished based on their methods of selecting new panel members to become regular respondents. From the eight general categories of Web surveys, three are related to Internet panels (types 3, 7, 8), but only one (Couper's type 3) refers to an online access panel, which can also be labelled as a volunteer or opt-in panel. In basic terms, an online access panel makes use of the Web survey technique to survey respondents who were previously recruited by non-probability methods and who are willing to participate regularly in surveys. The main characteristic which distinguishes an online access panel from the other online panel types is that new panel members are selected through non-probability, rather than probability methods (Couper, 2000, pp. 477-490). Based on these non-probability methods, a further distinction can be made between a non-probability recruited panel and an entirely self-selected panel. The former makes use of techniques such as the survey follow-up, as well as recruitment by telephone or on the basis of a client data file. The self-selection approach, on the other hand, comprises methods such as links on Websites, banners, Web advertisements or snowball methods to contact potential panel members (Stoop, 2006).

A closely related categorization of online access panels on the basis of the recruitment methods is between an open and a close panel. In the case of an open panel, respondents are able to contact the survey organization themselves to voluntary join the panel. With a closed panel, on the other hand, such a contact option is not allowed since all panel members are selected by the panel institution but not vice versa. The channels

by which new panel members are recruited can be online (e.g. Web advertisements), offline (e.g. by telephone), or a combination of both so that also low frequent users of the Internet have a chance of being selected. Since the adopted panel recruitment methods are directly linked to selection bias, a multi-method recruitment is assumed to be the most effective (Stenbjerre & Laugesen, 2005, p.9). This brings us to the methodological evaluation of online access panel polls.

4.2.6.2. Methodology of online access panel polls

The choice for an online access panel to monitor the opinions of the public entails methodological advantages and disadvantages compared with other poll methods. Similar to other *online* surveys, a large group of people can be reached in a short fieldwork period and at a very low cost, of which the answers can be rapidly collected and analysed because of an extensive automation (Bandilla, Bosnjak & Altdorfer, 2003, p. 235). This substantial time and cost reduction, however, could be somewhat more moderate for online access panels, because of the efforts necessary to create the panel in the first place and subsequently manage it in a permanent way (Duffy et al., 2005, p. 617).

An additional advantage of online surveys concerns the combination of anonymity and the absence of an interviewer, which is particularly important for studies in which social desirability may play a part. It is even suggested that for online surveys the mere elimination of the interviewer could produce more representative results (Duffy et al., 2005, pp. 617-618; Taylor, 2005). Similar to mail surveys, convenience is another argument in favour of Web surveys, because online respondents can choose a moment that is most convenient for them to answer the survey. Moreover, it is possible to interrupt the survey and complete it later (Duffy et al., 2005, p. 618).

Besides the advantages mentioned, however, online panel research has to cope with some important methodological problems which are mainly associated with the sampling design, and more specifically with non-coverage and sample selection difficulties (Bandilla et al., 2003; Dillman, 2000; Couper 2000). Because problems concerning the questionnaire design are case-specific, rather than general for online access panel polls, the focus of the present study is on methodological problems concerning the sampling design. These problems are considered next, as they may have great influence on the representativeness of the survey data to the general population. For example, the online access panel sample will eventually consist of only those people who could be reached through the Internet, joined the online access panel and responded to the survey

invitation. Since a possible solution for reducing biases in online access panel surveys is weighting (Taylor, 2005; Bethlehem & Stoop, 2007), this is discussed subsequently.

4.2.6.2.a. (Non-)coverage

First of all, the representativeness of poll results can be affected by the use of an online access panel because of limited coverage of the general public. As aforementioned, coverage error occurs when not all elements of the survey population have a known non-zero chance of being sampled for survey participation. The main reasons why the Internet can not be used as a proper sampling frame is because it does not include all members of the general population, and those people who can be included differ from those who cannot. Possible bias is thus not only related to the number of people who have access to the Internet but also to average differences between the persons with and without Internet access (Dillman, 2000, pp. 354-356). Although more people have gained access to the Internet over time, important socio-demographic differences still exist. In the US, for example, Internet users are more likely to be young, male, white, more educated, wealthy, city residents and the parents of children living at home (Lenhart et al., 2003; Vehovar, Bagatelj & Lozar, 1999, p. 966; Taylor, 2005, p. 2). Thus, the limited and differential coverage depending on background characteristics may reduce the usefulness of an online access panel to give a relevant indication of the passive mass opinion.

4.2.6.2.b. Selectivity of online access panels

Apart from the (non-)coverage problem, online access panel polls may be based on a selective sample of respondents, of which both background characteristics and opinion responses can differ greatly from the general public. Indeed, a major difficulty of online surveys is implementing a probability-based sample on the Web (Couper, 2000, p. 476), so that the poll results are a relevant representation of passive mass opinion. By adopting non-probability, and in particular self-selective panel recruitment methods, the chances of being sampled are unknown. For online access panel research, self-selection is mainly a problem during the recruitment of new panel members, rather than at the point of deciding whether they will actually respond to the online survey invitation. It may be assumed that people who participate in volunteer online access panels will have specific characteristics; they will have enough time available and have the skills required to regularly participate in surveys on the Internet. As a result, their answers to attitude questions could differ substantially from randomly selected persons in the general population. To study this selectivity bias, a comparison of the survey results between an online access panel and a representative sample is necessary.

For example, Bandilla et al. (2003, p. 236) compared the results of a Web survey collected from a pre-recruited panel of Internet users in Germany with those from a self-administered mail survey collected among the general population. After adjusting the sample of Internet users for basic socio-demographic characteristics, significant differences were still found between the two survey modes. However, a higher level of agreement across both methods could be found in parallel respondent groups, mostly among the more-educated people (Bandilla et al., 2003, pp. 238-241). Similarly, Vehovar et al. (1999) observed significant differences in four of the seven items concerning electronic trade between a self-selective sample of Web respondents and a telephone survey of frequent Internet users. These differences were largely due to differences in Internet experience between the samples. Such a finding is in line with general expectations that Web respondents are overrepresented by intensive users of the Internet and other media, as well as more technical-oriented persons.

However, in addition to differences in Internet experience, important social differences seem to exist between Internet users and non-users. Empirical research showed that people with greater social trust and greater subjective control over their lives tend to use the Internet more frequently (Lenhart et al., 2003). Moreover, through practical survey experience it was found that online panels comprise more politically- and socially-active respondents (Duffy et al., 2005, p. 627). Therefore, it can be expected that online access panel respondents show a greater political interest and trust, compared to randomly selected persons of the general population.

4.2.6.2.c. Possible solution: weighting?

A possible solution to reduce the biases due to limited coverage and self-selection may be weighting adjustment (Bethlehem & Stoop, 2007, p. 123). Taylor (2005), for example, argues that both post-stratification and propensity weighting procedures are required in order to reduce the biases in raw online access panel results (Taylor, 2005, p. 3). The post-stratification weighting aims to adjust for demographic differences between the sample and the population under consideration (Duffy et al., 2005, p. 620). However, the problem of selection bias cannot always be solved with the application of such post-stratification procedures since some variables of interest do not show a sufficiently strong relationship with the demographic weighting variables (Bethlehem & Stoop, 2007, p.123). Moreover, post-stratification weights can correct the online sample for proportionality but not necessarily for representativeness. Adjusting the proportional over- and under-

representation of certain respondent groups does not mean that the substantive answers of online access panel respondents also become comparable to those of the general population.

It is precisely because attitudinal and behavioural differences were still observed even after applying post-stratification weights based on demographic characteristics, that another weighting technique which has been primarily used in the context of experimental designs (e.g. Rosenbaum & Rubin, 1983; 1984; D'Agostino & Rubin, 2000) has been applied to online panel samples, namely the propensity score adjustment. This weighting technique aims to correct for differences caused by the varying inclination of individuals to participate in online access panel surveys (Duffy et al., 2005, p. 620). To this end, a probability-based reference survey that is not conducted over the Internet is needed. It is assumed that this reference survey produces unbiased estimates (Bethlehem & Stoop, 2007, p. 123). Through logistic regression, the probability of each respondent participating in the online access panel survey is estimated, based on background characteristics[32]. People are then classified into groups with a similar propensity score so that an equal distribution is obtained of the regression-used characteristics, both in the online panel and another, more traditional survey sample (Lee, 2006; Schonlau et al., 2009).

Although the post-stratification and propensity-based weights are necessary in order to compare online survey results with survey results from the general population (Duffy et al., 2005, p. 620), their application in research practice produced rather diverse results (Vehovar et al., 1999, p. 966). Malhotra and Krosnick (2007), for example, found that weighting adjustments could not eliminate the significant differences observed between two face-to-face surveys and two online access panel surveys regarding demographic and political variables. In some cases, these differences became even larger after weighting (Malhotra & Krosnick, 2007, pp. 293-296). Similarly, Taylor (2005, p. 5) observed that some differences between online and telephone survey data disappeared completely when using post-stratification weighting, some only after propensity score adjustments, and others continued to exist after applying both weighting procedures. Duffy et al. (2005) reached a similar conclusion, noting that certain questions produced similar results for online and face-to-face surveys without weighting, that other questions were comparable only after weighting (e.g. voting intentions), and that yet other topics

[32] Aside from demographic variables, 'Webographic' or lifestyle variables may be used (cf. Schonlau, van Soest & Kapteyn, 2007).

resulted in significant differences after the application of both post-stratification weighting and propensity score adjustments (e.g. political activism).

In order to evaluate these weighting procedures that are frequently applied to online access panel data, it is important to have a proper reference survey to compare them with. Since the main concern is representativeness of online access panel data compared with survey results from the general population, a randomly selected sample is required. In comparison with current mail or telephone surveys, the face-to-face survey method typically has higher response rates and greater potential to represent the general public (Malhotra & Krosnick, 2007, p. 287). Therefore, a probability-selected sample of personally-interviewed respondents was considered to be the most appropriate for this bench-mark study. However, by comparing a face-to-face interview with an online panel sample a new problem was inevitably introduced, namely mode effects. These mode effects occur because different modes may affect opinion responses differently. They are discussed in the next section.

4.2.6.2.d. Mode effects

Mode effects or the existence of systematic differences between data collected by a face-to-face interview and an online survey can be expected a priori, based on three main classes of factors which are highly interrelated: media related factors, information transmission differences and interviewer effects. The media related differences between modes refer to the social conventions and customs associated with the communication medium under consideration, such as the degree of familiarity with the mode and who controls the survey situation (the so-called 'locus of control'). The control over the pace and flow of a face-to-face interview lies primarily with the interviewer, but it is the respondent who chooses when, where and at what pace online questions are answered (de Leeuw, 1992, pp. 26-29; de Leeuw, 2005, p. 244).

The second group of factors concerns the information transmission differences between modes that arise depending on which communication channels can be used, namely verbal, nonverbal and/or paralinguistic (e.g. emotional tone, timing and emphasis) communication (de Leeuw, 1992, pp. 29-30). A related classification is based on the presentation of the stimuli; visually or auditory (Schwarz et al., 1991, pp. 194-195; Dillman, 2000). A face-to-face survey can make use of all three communication channels and both types of stimuli presentations. In contrast, the online survey is primarily presented in a visual way and without nonverbal communication. This requires more

demanding cognitive processing from the online respondents and may potentially result in lower data quality. For example, Heerwegh and Loosveldt (2008) found evidence that online respondents provide more 'don't know' responses, more non-differentiation on rating scales, and a higher item non-response rate compared with face-to-face respondents. This is referred to as a 'satisficing' effect, which can arise depending on the respondent's ability and motivation as well as the difficulty of the survey task (Holbrook, Green & Krosnick, 2003, p. 82).

The third class of mode effects concerns the impact of the interviewer on the question-answer process. Positive impact may occur because the interviewer can motivate the respondents, clarify questions and give additional information when needed. However, negative impact of the presence of an interviewer is also possible, because it may reduce people's feelings of privacy and anonymity (de Leeuw, 1992, pp. 31-32). This may in turn affect people's willingness to provide sensitive information and thus the degree of social desirability (de Leeuw, 2005, p. 245). The assumption is that the greater the 'social distance' between respondent and interviewer, the greater the tendency is to answer honestly. In a face-to-face survey situation, the social distance is assumed to be smaller than in an online mode, which makes people more susceptible to possible disapproval signs from the interviewer (Holbrook et al., 2003, pp. 86-87). For example, Comley (2003, pp. 7-8) found that online marketing surveys produce a higher degree of 'honest' answers than interviewer-administered surveys. With regard to political questions, Duffy et al. (2005, pp. 624-625) found that in the absence of an interviewer, online respondents are more likely to display their voting intention than personally-interviewed persons.

4.2.6.3. Objectives of the empirical study

In order to study whether online access panels can be used to poll the opinions of the public in a way that they offer a relevant indication of passive mass opinion, an empirical comparison was performed between the data obtained from a self-administered online access panel survey and the answers collected in a face-to-face interview with a probability-based sample of the general population. Both surveys were compared based on questions with identical wordings, asked during a similar time period in the same geographic region, namely Flanders. Because a similar questionnaire was used for the empirical comparison, the focus of this study is on the impact of the sampling design on the poll results obtained, and more specifically their representativeness to the general public. Indeed, the main question to be addressed is to what degree the online access panel polls produce results that are representative of the general public, regarding socio-

demographic background characteristics, as well as attitudinal questions about issues such as work satisfaction, politics and immigrants. In addition to methodological problems related to the sampling design, such as limited coverage and non-probability based recruitment of new panel members, possible mode effects will be considered. As weighting methods based on demographic variables and propensity scores are often applied as possible solutions to make results of online access panel polls representative of passive mass opinion, these weighting adjustments were empirically assessed.

4.2.6.4. Research design

This section presents first some general characteristics of the online access panel under consideration, as these characteristics may entail implications for the sample obtained. Subsequently, information about the samples, time and costs, questionnaire, and weighting procedures are presented.

4.2.6.4.a. Online access panel selected: background information

The online access panel that was empirically investigated came from *iVOX*, a Belgian market research company. It can be generally observed that this particular online access panel is currently very frequently used to monitor the opinions of the public, not in the least by the news media themselves. The Flemish newspaper *Het Nieuwsblad* has even started a close cooperation with this polling institute to regularly use their online access panel to poll the opinions of the Flemish (and sometimes Belgian) population aged between 18 and 74 years old. These results are often reported not only in their own news articles, but also in other newspapers from the same editor. Moreover, they are occasionally even disseminated further by the Belgian news agency Belga[33]. The main problem is that these poll results are often reported with reference to the *general public*, such as 'the Belgians' or 'the Flemish', but without mentioning that the respondents were online access panel members. It was even reported that the sample was 'representative of the Flemish (or Belgian) adult population, due to the application of weighting procedures'[34]. Whereas Chapter 2 (cf. Subsection 2.4.4.1) presented empirical evidence

[33] For example, an article based on poll results of the online access panel of *iVOX*, entitled 'Meer dan helft Belgen ziet Leterme mislukken (More than half of the Belgians see Leterme failing)', was published on 21/03/2008 by the newspaper which commissioned the online access poll, namely *Het Nieuwsblad*, but also by the other newspapers published by the same editor (Corelio), namely *Het Volk* and *De Standaard*; moreover, the news agency *Belga* disseminated this news article further (source: Mediargus).

[34] For example in the following news articles: *Het Nieuwsblad*, 11/07/2008, 'Vlaamsgezinder, maar België mag blijven bestaan (More pro-Flemish, but Belgium can continue to exist)'; *Het Nieuwsblad*, 05/06/2008, 'Werkwijze (Poll method)'; *De Standaard*, 05/06/2008, 'Vlaming geeft prins Filip een jaar om te overtuigen (Fleming gives prince Filip one year to convince')'.

of (limited) disclosure of methodological aspects in Flemish newspaper articles about opinion polls, this chapter-section examines the poll methodology itself more closely, in order to study whether the online access panel approach can indeed offer a representative indication of passive mass opinion.

At the moment of the study, the online access panel investigated was composed of (over 80.000) panel members who were recruited through different channels, both online and offline. In this way, also low frequent users of the Internet have a chance of being invited to join the panel. However, no probability-based methods were used to recruit new panel members. Instead, they were recruited through non-probability based methods, such as traditional survey methods in follow-up surveys and on the basis of client databases; as well as by self-selective recruitment methods, such as online and offline advertisements. Since respondents are able to contact the survey organization themselves to voluntary join the panel, it is defined as an open panel. However, the use of different methods to recruit panel members may produce a sample of respondents that is more diverse than merely comprising the group of high-frequency Internet users (Stenbjerre & Laugesen, 2005). Table 4-7 gives an overview of the specific panel recruitment methods adopted by the panel institute (*iVOX*).

Although the *recruitment* methods for new panel members are non-probability based and self-selective, the *selection* methods of potential respondents from this online access panel may be probability-based. The reason for this is that there is a frame from which panel members can be sampled, namely an information database with personal background information of the panel members, which was collected by a short online questionnaire upon panel registration. For example, information is collected about gender, age, level of education, zip code and an e-mail address. After registration, potential panel members are asked to confirm their membership by clicking on a link in an e-mail, which is why it concerns a (double) opt-in panel, as people voluntarily choose to join the online access panel and subsequently confirm their membership.

Table 4-7: Overview of the recruitment methods for the online access panel under study

Recruitment methods	Online	Offline
Probability-based	-	-
Non-probability based	-	Follow-up surveys (face-to-face, telephone) Databases of clients
Self-selection	Pop-ups Website links Member-gets-member	Advertisements in paper and on local television

The online access panel under consideration is permanently managed by the polling institute. The e-mail addresses of the panel members are validated and inactive panel members are removed from the database in an automated way. In addition, panel members also have the opportunity to deregister themselves voluntarily. Furthermore, the polling institute monitors that panel members are contacted (by e-mail) between two and ten times a year, but not more than once a month to participate in opinion polling. This kind of restrictive policy regarding the number of invitations sent to the panel members may become less relevant, due to a potential panel overlap. For example in the Netherlands, a study found that 62 percent of the panel respondents were member of multiple panels (Van Ossenbruggen & Vonk, 2006). Consequently, those people who are member of various online panels and participate very frequently in different opinion surveys may become 'experienced respondents', who could show an answer pattern that deviates from those respondents who are less experienced in answering survey questions.

4.2.6.4.b. Sample information

Based on the information database of online access panel members, a stratified sample was drawn of adult panel members aged between 18 and 74 years old, living in the Flemish region of Belgium. The sample was stratified according to gender, age and education, based on census information. Additionally, certain groups of respondents were over- or under-sampled according to previously achieved response rates within the stratified cells. As an incentive, respondents could win gift vouchers from multimedia shops. From the 5685 survey invitations sent by e-mail to the online panel members, 3235 online surveys were completed. This resulted in a 'completion rate' of 59.96 percent (calculated by AAPOR Response Rate definition 1; AAPOR, 2009).

These online access panel data were compared with a probability based sample, namely the Belgian dataset of the third round of the *European Social Survey* (ESS, 2006). The ESS was selected as bench-mark dataset, as it is an academically-driven face-to-face survey, organized every two years in over 30 European countries with a high-standard survey protocol, including refusal conversion. It aims to study public attitudes and values in Europe, as well as to improve methods of cross-national survey measurement. Therefore, it can be considered a 'golden standard', or at least currently one of the best available academic, high-quality surveys to compare the online access panel survey with. In Belgium, a two-stage probability sampling design was implemented, stratified

according to provinces and municipalities in which persons aged 15 years and older living in private households in Belgium were selected by simple random sampling. No incentives were provided (Matsuo, Loosveldt & Billiet, 2007). Although the target population of the ESS consisted of Belgian persons of 15 years and older, only the persons of the Flemish region between 18 and 74 years old were taken into consideration, similar to the target population of the online access panel poll. The response rate for the Flemish region was 62.25 percent.

Although it can be noted that the response percentages seem quite similar between the online access panel survey (60%) and the face-to-face survey (62%), the 'completion rate' of online access panels cannot properly be compared with the response rate of traditional surveys. The main reason is that the completion rate of online access panels does not take into account the self-selection at the point of inviting new panel members. Put differently, the online panel respondents previously agreed to participate regularly in surveys, whereas the randomly sampled persons did not previously agree to being surveyed. Furthermore, artificially high completion rates may be obtained by eliminating groups from the panel that are difficult to reach or by maintaining those panel members who respond well. Therefore, the overall response level for an online access panel can be considered an indicator of the panel management efficiency by the poll institute, rather than of the sample quality (Van Ossenbruggen & Vonk, 2006).

4.2.6.4.c. Time and cost differences

Apart from the response information, it is relevant to mention the substantial difference in rapidity between both modes through which the survey data was collected. The responses of the face-to-face interviews were gathered over almost four months. The online survey on the other hand was accessible for the selected panel members to be answered during only one month. The same day the e-mail invitations were sent to the selected panel members, already 1576 respondents completed the Web survey. This means that 28 percent of the survey invitations sent were responded on the very first day of data collection. In other words, almost half of the completed surveys (48.7%) were filled out during the first fieldwork day. After 10 days a first, and after another 10 days a second, reminder was sent by e-mail to the panel members who had not yet responded to the survey invitation. After the second reminder, there was only a response supplement of 4.5 percent of the sent invitations. Largely due to practical reasons, it is almost impossible to obtain a similar kind of rapidity in the collection of data from personal interviews for which appointments have to be made and interviewers have to visit the

respondents. For example, on the first day of data collection for the *European Social Survey*, only 11 face-to-face interviews were completed in the Flemish region.

In addition to time, there was an important difference in cost between both surveys. The cost per completed interview for the face-to-face survey (ESS) was about 140 euros. In contrast, for the online panel survey there was a fixed cost of the panel management and the variable cost of about 3 euros per completed survey. These reductions in both time and costs can be considered major advantages of online panel surveys over more traditional survey methods.

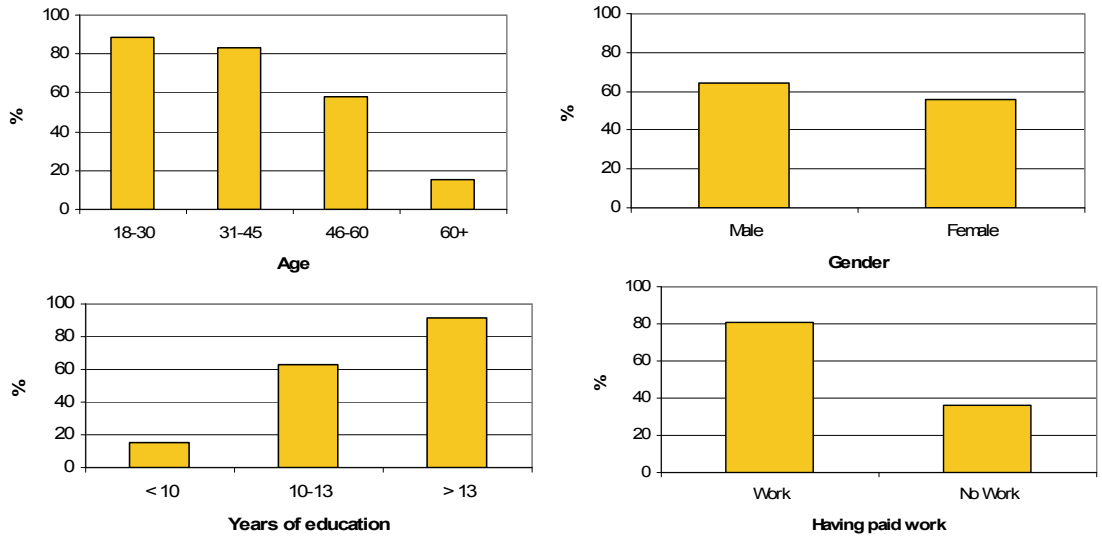
4.2.6.4.d. Questionnaire differences

With regard to the questionnaire, several identical questions about different social and political themes were asked in both surveys. In the online survey, however, a shorter version of the questionnaire was used. The mean time for filling out the online survey was 14 minutes, compared with the hour-long face-to-face survey. In order to reduce differences in the questionnaires between the two survey modes, the same question wordings and answer categories were used. Furthermore, the mode difference of a visual provision of answer categories on the computer screen for the online survey compared with an oral presentation of these categories in the face-to-face survey was reduced by visually showing the response options on print cards during the personal interview which is recommended by the standard ESS-protocol.

4.2.6.4.e. Weighting procedures

As samples of persons living in the Flemish region were compared, information about the Internet coverage in this region was considered. For example, in this region an increase in the percentage of inhabitants owning an Internet connection had been recently observed, from 33 percent in 2001 to 62 percent in 2006 (SCV survey, 2006). With regard to Internet usage (in terms of the percentage of people who used the Internet in the last three months), Figure 4-1 shows significant differences for Flanders when studied against some basic characteristics. It can be seen that Internet usage declines with age. Furthermore there are slightly more men than women who use the Internet. People who completed more years of education and people who have paid jobs also use the Internet slightly more. These results illustrate the typical coverage problem of online surveys and therefore the necessity of weighting the results of online samples.

Figure 4-1: Percentage of Internet usage in the Flemish population by age, gender, years of education and having paid work (based on figures from SCV survey, 2006)



Note: Internet usage was measured in terms of using the Internet in the last three months (SCV survey, 2006)

An initial evaluation of the sample representativeness, which serves as the basis for post-stratification weighting, was performed by comparing the effective samples with the target population of Flemish people between 18 and 74 years old. Table 4-8 presents the unweighted univariate distributions of gender, age and the highest obtained educational level for the online access panel sample, the probability-based face-to-face sample and the target population. The population figures come from the Belgium institute of statistics, more specifically from the National Survey of Labour Force (LFS, 2005). Discrepancies between the effective samples and the population figures were tested at the global level of the variable distribution by a Chi-square test based on the expected and observed cell frequencies, as well as at the level of the individual categories by calculating 95 percent confidence intervals around the sample percentages. When the population percentage falls in this confidence range, the observed difference between sample and population is due to chance (at the alpha level of 0.05), otherwise it is a matter of systematic bias. Since the online panel sample was stratified according to age, gender and education, it may be assumed that these variables are correctly represented in the effective online sample when there is no non-response bias.

Table 4-8: Unweighted demographic characteristics of respondents compared with the population of Flanders, 18-74 years old

Characteristic	Online Panel sample % (n)	F2F Survey sample % (n)	Target population (Source: LFS) % (n)
Gender	*N.S.*	*N.S.*	
Male	51.11 (1 629)	50.41 (494)	50.10 (2 184 010)
Female	48.89 (1 558)	49.59 (486)	49.90 (2 175 348)
Age	***	*N.S.*	
18-24	7.37* (237)	13.06 (128)	11.41 (497 600)
25-34	17.81 (573)	13.67* (134)	17.57 (766 149)
35-44	19.02* (612)	22.35 (219)	21.43 (934 037)
45-54	23.22* (747)	19.49 (191)	20.08 (875 557)
55-65	25.02* (805)	16.53 (162)	15.95 (695 246)
65-74	7.55* (243)	14.90 (146)	13.55 (590 768)
Education	*N.S.*	***	
Lower secondary	36.83 (1 151)	28.88* (283)	36.39 (1 586 175)
Higher secondary	34.72* (1 085)	57.65* (565)	37.37 (1 629 120)
Higher education	28.45* (889)	13.47* (132)	29.76 (1 144 062)

Note: N.S. p≥.05; * p<.05; ** p<.01; *** p<.001

Although it could be expected that more males respond to online surveys, because they are more often a (frequent) Internet user (SCV survey, 2006), Table 4-8 shows no significant differences in gender neither for the online access panel, nor for the random sample, compared to the population figures. With regard to age, the online panel survey significantly deviated from the distribution of the Flemish population between 18 and 74 years old. As can be expected, the oldest age group of 65-74 years was under-represented in the Web survey (8%) compared with the target population (14%). This is an indication that it is quite difficult for the online access panel to collect information from the respondents in this oldest age category. Although it could be expected that people in the youngest age category of 18-24 years old are easily reached through the Internet, they were also proportionally under-represented in the online panel survey (7%) compared with their share in the target population (11%). A possible explanation could be that these younger people are less interested in participating in Web surveys that ask about their opinions concerning a variety of societal themes. Another factor could be the survey time, which was not so short for an online questionnaire (mean time of filling out the questionnaire was 14 minutes).

As shown in Table 4-8, in particular people between 55 and 65 years old were significantly over-represented in the panel sample (25%) compared with the target population (16%). This is rather remarkable. It seems that these middle-aged respondents not only have enough time but also the skills required to participate regularly in online surveys. For the face-to-face survey of randomly sampled respondents, the global age distribution did not deviate significantly from the population (with the exception of the age category 25-34 years). This means that the randomly obtained sample which was not stratified by age gave a better representation of the different age groups compared with the stratified online panel sample.

Concerning the educational distribution of the respondents, it was the random sample that differed significantly from the population percentages. In particular, the group of respondents who have obtained (at the most) a higher secondary level were over-represented in the random sample (58%) compared with the target population (37%). The overall distribution of education in the online panel sample, on the other hand, did not deviate from the population figures. However, persons who completed higher education were proportionally closer to the population figure (30%) in the online panel (28%) than in the random sample (13%). This is in line with general expectations, since higher educated people can be expected to be more easily reachable through the Internet.

Based on the information in Table 4-8, post-stratification weights were applied to both samples. These were calculated as the ratios of the respective population and sample percentages for the combined characteristics of gender (2 classes), age (6 classes) and education (3 classes). Apart from this post-stratification weighting on gender, age and education, the raw online panel data were weighted by a propensity score adjustment, using at least the same variables as in the post-stratification weighting. For this, a logistic regression was performed on a dataset that comprised both the face-to-face survey and the online access panel survey to estimate people's probability of participating in the online access panel. The variables of age, gender, education, having paid work and living area were included in the estimation of the propensity scores and subsequently in the calculation of the weights. Table 4-9 gives an overview of the logistic regression coefficients, odds ratio's and Wald tests. As can be seen from this table, all of the included variables, with the exception of gender, were found to have a significant effect on the selective participation in the online panel survey (pseudo-R^2=11%).

Table 4-9: Logistic regression of the probability of participating in the online access panel (n=4081)

Variables		ß	P-value	Odds Ratio	95% Wald CL
Gender	Male (Ref: Female)	0.140	*N.S.*	1.151	[0.988 - 1.340]
Age	18-29	0.404	**	1.498	[1.153 - 1.946]
	30-39	0.597	***	1.817	[1.367 - 2.416]
	40-49	0.501	***	1.651	[1.267 - 2.151]
	50-59	0.770	***	2.159	[1.682 - 2.770]
	(Ref: 60-74)				
Education	Lower secondary	-0.622	***	0.537	[0.421 - 0.684]
	Higher secondary	-1.325	***	0.266	[0.214 – 0.330]
	(Ref: Higher education)				
Work	Paid work (Ref: No paid work)	-0.473	***	0.623	[0.517 - 0.751]
Living Area	(Sub)urban (Ref: Rural)	0.678	***	1.971	[1.691 - 2.297]
Nagelkerke R^2=0.1074					

Note: The logistic regression was performed on a dataset that comprised both the face-to-face survey and the online access panel survey; **p<.01; ***p<.001

As aforementioned, a rather remarkable observation is that people in their fifties (50-59 years old) were 2.16 times more likely to participate in the online panel survey in comparison with the older age group (60-74 years old), controlling for the other variables in the regression. Furthermore, people living in a (sub)urban area were 1.97 times more likely to participate in the online panel survey, in comparison with those living in a rural area. Participation in the online panel survey was significantly lower for people who have a paid job (β=-0.473) and for people without a degree in higher education (β=-0.622 for lower secondary; β=-1.325 for higher secondary). After the propensity scores were estimated, based on the background variables included in Table 4-9, all the respondents were categorized into 10 groups of 10 percent. Weights were then calculated to make the distribution of the Web respondents similar to that of the face-to-face respondents with regard to their propensity scores (Lee, 2006; Schonlau et al., 2009).

4.2.6.5. Empirical evaluation of weighting procedures for an online access panel and its representativeness to the Flemish public

In order to empirically assess weighting techniques based on poststratification variables and propensity scores, as well as their impact on the representativeness of online access panels to the general public, the survey results of the online access panel respondents were compared with the personally-interviewed respondents for different themes such as

work satisfaction, political attitudes and attitudes towards immigrants. The tables included show the observed differences in the response distributions between the two modes, their significance tested by Chi-square tests for categorical variables and two-sided t-tests for (quasi-) continuous variables. For ordinal variables, both tests were performed so that the overall mean scale values, as well as the percentage distributions could be compared. An initial comparison was tested between the raw or unweighted data among the online panel and face-to-face survey. A second comparison was tested among both surveys after post-stratification weighting based on the combined cells of age, gender and education. Finally, the propensity score adjusted online panel data were compared with the unweighted face-to-face survey data (Duffy et al., 2005; Taylor, 2005).

Where differences can be observed between the online and face-to-face survey data, two major explanations can be put forward. The first is a selection effect, which refers to the unique nature of the group of people who are willing to participate regularly in online access panel surveys. The hypothesis is that if the answers remain significantly different between both survey methods even after standardizing basic variables such as age, gender and education, the respondent groups are fundamentally different and therefore their survey results are not comparable. A second possibility is the existence of mode effects which occur if people give different answers depending on the method of data collection. In this case, people may answer differently depending on whether they are responding to the (non-)verbal communication of an interviewer or whether they answer the questions when sitting in front of a computer, which provides a higher feeling of anonymity and a larger 'social distance' between the respondent and interviewer (Holbrook et al., 2003, pp. 86-87; Kellner, 2004, pp. 16-18). As the available data did not allow for a clear distinction to be made between sample selection biases and mode effects, they will be considered concurrently in the interpretation of the results. In order to have some indication, different kinds of questions were compared for which a varying degree of social desirability can be expected. First, factual questions concerning people's living area and work situation were compared, for which the interviewer impact can be considered minor. Then, attitudinal questions which are more sensitive to the presence of an interviewer were considered, namely those regarding work satisfaction, political interest and attitudes towards immigrants.

4.2.6.5.a. Factual questions

Table 4-10 compares the answers from the online access panel respondents and the face-to-face interviewees to two 'factual' questions for which social desirability mode

effects can be considered negligible. The propensity-weighted results for these variables are only shown to illustrate the effect of the propensity score adjustment. Since these covariates were used in estimating the probability of participation in the online access panel survey (cf. Table 4-9), their distributions were adjusted to be similar for both samples. This means that the online panel respondents were made equal to those randomly selected in the general population with regard to their propensity to participate in the online access panel survey. As a consequence, the percentage distributions of living area and work participation did not differ significantly after applying this weighting technique.

From Table 4-10 it can be seen that significantly more online panel respondents lived in an urban or suburban environment (this can be a big or small city or the suburbs of a big city), compared with the randomly-sampled persons who rather live rurally. Large differences in percentage points between both survey methods were observed (17%). After weighting for age, gender and education, these significant differences between the two samples did not disappear. The post-stratification weighting using these basic characteristics thus canceled out the under- and over-representations of the combined classes of age, gender and education, but did not make the online panel respondents and the face-to-face interviewees comparable regarding their living area. This illustrates that post-stratification can solve the problem of proportionality but not necessarily that of a (lack of) representativeness to the general public.

Since this factual question about people's living area can be considered as not sensitive to social desirability, the observed differences are more likely to be related to actual respondent characteristics than to mode differences. The non-coverage issue is relevant here, since people living in cities have greater and easier access to the Internet compared with people living in more rural areas (Lenhart, 2003, p. 4). Thus, a possible explanation for this significant difference in responses may be a selective non-response bias, namely that people from (sub)urban areas are more likely to be online and therefore more likely to be recruited into the online access panel. For that reason, living area was a variable taken into consideration in the propensity score weighting.

Table 4-10: Percentage distributions of living area and work situation

	Unweighted		Post-stratification weighted (age*gender*education)		Propensity weighted
	Online Panel	F2F Survey	Online Panel	F2F Survey	Online Panel
	%	%	%	%	%
Living area					
(Sub)urban	52.48	35.41	53.61	36.21	36.03
Rural	47.52	64.59	46.39	63.79	63.97
Chi² (df=1) ; p	*87.46 ; ****		*90.34 ; ****		*0.12 ; N.S.*
Work					
Paid work	55.56	59.80	56.09	62.02	58.59
No paid work	44.44	40.20	43.91	37.98	41.41
Chi² (df=1) ; p	*5.47 ; **		*10.71 ; ****		*0.45 ; N.S.*

Note: N.S. p≥.05; * p<.05; ** p<.01; *** p<.001

Regarding work participation, Table 4-10 shows that substantially more respondents in the random sample had a paid job compared with respondents of the online access panel. This is rather counter-intuitive given the Internet penetration figures which show the opposite, namely that more Internet users have a paid job compared with people who do not have access to or do not use the Internet frequently (SCV survey, 2006; cf. Figure 4-1). Therefore, the expectation that online panels are dominated by actively working people was not found for the online access panel studied. Thus, it can be noted that the online panel respondents (middle aged, without a paid job) are not necessarily the same as the group of frequent Internet users (young, having a paid job). The post-stratification weighting for age, gender and education did not make this difference between the two survey modes disappear. On the contrary, the difference in percentage points increased from 4 when unweighted to 6 when weighted.

4.2.6.5.b. Attitudinal questions about work satisfaction

Next, only the respondents who claimed to have a paid job were compared between both survey modes with regard to their work satisfaction. Table 4-11 illustrates that scaling the respondents' general (dis)satisfaction with their current job produced no significant differences between the online panel and the face-to-face survey. This means that whether a probability-based face-to-face survey or a non-probability based online access panel survey was used, similar conclusions would be drawn regarding passive mass opinion on the level of satisfaction with the current job. However, a similar eleven-point

scale regarding satisfaction with the time balance between paid work and other activities differed significantly between the online panel respondents and the personally-interviewed people. More specifically, Web respondents were on average slightly more satisfied. The post-stratification weighting based on age, gender and education had only a minor impact on the data. Similar inconsistencies were found with the second pair of questions about the frequency with which people find their job interesting or a cause of stress. The seven-point scales showed, in the former case a significant difference, and in the latter case a similar response distribution between both sample groups.

If the mode effect of social desirability is taken as a possible explanation of the observed differences, the expectation is that the personally-interviewed respondents would show a higher satisfaction compared with those who answered the questionnaire online. There is, however, no clear reason why this would play a part for some of the work-related questions (e.g. how often work is interesting) but not for others (e.g. how often work causes stress, general work satisfaction) or why occasionally the exact opposite of the expectations was found (e.g. time balance satisfaction). This latter result is not in line with the expectations based on possible social desirability bias which would show personally interviewed respondents to be more satisfied relative to those who answered the questionnaire online without an interviewer present. However, Table 4-11 shows the exact opposite, namely a more positive answer among the online panel respondents. This suggests that although two different modes were compared, the mode differences certainly cannot always explain the differences in answers between the respondent groups. But the finding that at the same time similarities and differences were observed for questions regarding a similar theme (work satisfaction) implies that conclusions based on the online panel results would for some questions resemble and for other questions differ from a survey representative of the general public.

The propensity-weighted means of the online panel survey only slightly changed the survey results, and in the opposite direction to what would be expected. By making the distribution for several basic variables equal across both surveys based on propensity scores, it is expected that the differences between the propensity score adjusted panel data and the personally-interviewed respondents would become smaller. This seemed not to be the case here, since the differences have become slightly larger instead of smaller after applying this weighting technique.

Table 4-11: Mean scale values concerning work satisfaction (only for those respondents who have a paid job)

	Unweighted		Post-stratification weighted (age*gender*education)		Propensity weighted
	Online Panel	F2F Survey	Online Panel	F2F Survey	Online Panel
	Mean	Mean	Mean	Mean	Mean
Q How satisfied are you with … (scale 0 very dissatisfied – 10 very satisfied)					
current work	7.654	7.637	7.661	7.621	7.656
t ; p	*0.19 ; N.S.*		*0.46 ; N.S.*		*0.21 ; N.S.*
time balance paid job - other activities	6.922	6.268	6.958	6.201	6.979
t ; p	*6.50 ; ****		*7.56 ; ****		*7.00 ; ****
Q How often do you find that your job … (scale 0 never – 6 all the time)					
is interesting	4.401	4.591	4.392	4.596	4.350
t ; p	*-3.20 ; ****		*-3.45 ; ****		*-3.92 ; ****
causes stress	3.324	3.359	3.283	3.393	3.259
t ; p	*-0.46 ; N.S.*		*-1.44 ; N.S.*		*-1.29 ; N.S.*

Note: N.S. p≥.05; * p<.05; ** p<.01; *** p<.001

4.2.6.5.c. Attitudinal questions about political interest and complexity

Another theme that lends itself to studying the possible selection bias is political interest and political complexity. In previous research, it has been found that online panel respondents show more politically-active attitudes (Duffy et al., 2005, p. 627). Accordingly, it can be expected that they are more interested in politics and find politics less complicated in comparison with the randomly-sampled respondents. Indeed, Table 4-12 shows that more online panel respondents answered the extreme category 'very interested in politics' compared with the personally-interviewed respondents of whom more answered 'not at all interested'. In the middle categories, however, attitudes moved in the opposite direction. Moreover, when the mean values of this variable were compared instead of the percentage distributions, the significant differences between both sample groups disappeared. Thus, the suggestion that panel respondents are more interested in politics compared with the randomly-sampled persons has to be put into perspective based on these results.

Regarding the frequency with which respondents find politics so complicated that they cannot really understand it, and the degree of difficulty they have in forming a political opinion, it can be seen that online panel respondents more often tended to choose the middle categories, such as 'occasionally' and 'neither difficult nor easy'. This could be an indication of 'satisficing' from online respondents in expressing answers without thoughtful consideration (Heerwegh & Loosveldt, 2008; Holbrook et al., 2003). From the two questions concerning political complexity, only the last one showed a result in line with general expectations, namely that online panel respondents find it less difficult to make up their mind about political issues.

Weighting by age, gender and education only had a minor impact on the survey results, and did not make the online panel respondents comparable with the randomly selected people regarding their political attitudes. On average, the propensity score weighting changed the percentages slightly more than the post-stratification, although not always in the expected direction. By exploring possible explanations, it was found that the relationship between political interest and education was not the same in both surveys.

Contrary to what would be expected, it seemed that substantially fewer online panel respondents with a higher education degree are very, or quite, interested in politics compared with the more educated people in the random sample. On the other hand, the less educated online panel respondents more frequently answered that they are very interested in politics. For political complexity, there was no different relationship with education between both samples (the more educated, the less complex the respondent evaluates politics). Because of different underlying relationships, such as those between political interest and education, the propensity score weighting that is partially based on education makes the differences between both survey modes slightly larger instead of smaller. This indicates that the gap between both groups of respondents is becoming even larger after weighting. Therefore, the specificity of the online panel sample is an important explanation for the differences observed between both survey groups.

Table 4-12: Percentage distributions and mean scale values of political interest and political complexity

	Unweighted		Post-stratification weighted (age*gender*education)		Propensity weighted
	Online Panel	F2F Survey	Online Panel	F2F Survey	Online Panel
	%	%	%	%	%
Q How interested are you in politics?					
1. Very interested	11.20	8.16	10.90	8.60	11.60
2. Quite interested	27.95	41.12	28.55	42.31	30.09
3. Hardly interested	43.66	29.59	43.92	27.47	43.23
4. Not at all interested	17.19	21.12	16.64	21.62	15.08
Chi² (df=3); p	*91.51 ; ****		*108.94 ; ****		*86.86 ; ****
Mean	2.669	2.637	2.663	2.621	2.618
t ; p	*0.97 ; N.S.*		*1.29 ; N.S.*		*-0.58 ; N.S.*
Q How often does politics seem so complicated that you can't really understand what is going on?					
1. Never	3.29	5.74	3.38	5.56	2.75
2. Seldom	21.91	22.54	21.89	23.48	20.15
3. Occasionally	39.88	34.43	40.09	33.81	40.17
4. Regularly	25.46	23.98	25.30	23.39	26.86
5. Frequently	9.47	13.32	9.33	13.77	10.07
Chi² (df=4); p	*28.62 ; ****		*32.50 ; ****		*36.87 ; ****
Mean	3.159	3.166	3.153	3.163	3.214
t ; p	*-0.19 ; N.S.*		*-0.28 ; N.S.*		*1.29 ; N.S.*
Q How difficult or easy do you find it to make your mind up about political issues?[35]					
1. Very easy	4.34	2.97	4.50	2.70	3.91
2. Easy	23.06	21.29	23.05	22.28	22.15
3. Neither difficult nor easy	43.04	33.67	42.65	32.81	43.56
4. Difficult	23.93	35.31	24.26	34.92	25.12
5. Very difficult	5.63	6.76	5.54	7.29	5.26
Chi² (df=4); p	*58.08 ; ****		*58.99 ; ****		*50.19 ; ****
Mean	3.035	3.216	3.033	3.218	3.057
t ; p	*-5.27 ; ****		*-5.36 ; ****		*-4.68 ; ****

Note: N.S. p≥.05; * p<.05; ** p<.01; *** p<.001

4.2.6.5.d. Attitudinal questions about immigrants

Subsequent to the comparison of factual questions about living area and work participation, and attitudinal questions regarding work satisfaction and political interest, a

[35] The original answer categories were recoded for reasons of consistency, so that higher scores represent a higher political complexity, in accordance with the other questions in Table 4-12.

theme was considered that is particularly sensitive to social desirability; attitudes towards immigrants. It can be assumed that the presence of an interviewer during the face-to-face survey produces more positive responses towards immigrants compared with those from the online panel respondents who answer the self-administered survey online.

Table 4-13 shows that all the mean scale values concerning attitudes towards immigrants were consistently higher for the online access panel respondents. This confirms the more negative attitudes towards immigrants in the online panel sample, compared with those from the personally-interviewed respondents. Also, when the percentage distributions of the first three ordinal variables are compared, it seems that the online panel respondents more often answered that only 'a few' immigrants or 'none' should be allowed to live in Belgium, compared with the face-to-face respondents who tended to answer in the categories 'allow some' and 'many'. This is in line with expectations based on the presence or absence of an interviewer during the survey.

As the available data did not allow for the disentangling of mode effects and sample selection biases, it cannot be entirely ruled out that sample differences also play a part. Only a limited impact was observed due to the weighting based on age, gender and education, as well as the propensity score adjustment. The latter even made the differences between the online panel and random sample slightly larger. Therefore, both the social desirability and the selectivity of the online panel sample should be seen as possible explanations for the differences observed.

But the fact that differences were observed entails that a significantly different indication of passive mass opinion towards immigrants would be shown, depending on the poll methodology chosen to collect the opinion data. In the case of such a theme that is sensitive for social desirability bias, the online access panel survey might show a more realistic mass opinion than the face-to-face survey in which an interviewer poses the socially-laden questions about the allowance of immigrants.

Table 4-13: Percentage distributions and mean scale values about attitudes towards immigrants

	Unweighted		Post-stratification weighted (age*gender*education)		Propensity weighted
	Online Panel	F2F Survey	Online Panel	F2F Survey	Online Panel
	%	%	%	%	%
Q To what extent do you think Belgium should allow people of the same race or ethnic group as most Belgian people to come and live here?					
1. Allow many	13.13	18.51	13.57	18.06	12.40
2. Allow some	52.26	56.85	51.99	57.92	52.06
3. Allow a few	26.80	18.40	27.02	17.40	27.07
4. Allow none	7.81	6.24	7.42	6.62	8.46
Chi² (df=3); p	*41.05 ; ****		*43.04 ; ****		*49.22 ; ****
Mean	2.293	2.124	2.283	2.126	2.316
t ; p	*5.83 ; ****		*5.41 ; ****		*6.58 ; ****
Q How about people of a different race or ethnic group from most Belgian people?					
1. Allow many	8.53	10.13	9.32	9.65	7.58
2. Allow some	43.24	49.03	41.99	51.07	41.62
3. Allow a few	33.84	26.41	35.15	24.92	35.18
4. Allow none	14.40	14.43	13.54	14.36	15.62
Chi² (df=3); p	*20.34 ; ****		*37.55 ; ****		*32.73 ; ****
Mean	2.541	2.451	2.529	2.440	2.588
t ; p	*2.88 ; ***		*2.86 ; ***		*4.39 ; ****
Q How about people from the poorer countries outside Europe?					
1. Allow many	8.19	10.33	9.29	10.20	7.77
2. Allow some	44.08	44.48	42.64	45.88	42.53
3. Allow a few	30.78	31.60	31.36	31.01	31.94
4. Allow none	16.95	13.60	16.72	12.91	17.76
Chi² (df=3); p	*9.16 ; **		*9.19 ; **		*13.87 ; ***
Mean	2.565	2.485	2.555	2.466	2.597
t ; p	*2.52 ; ***		*2.77 ; ***		*3.51 ; ****
Immigration improves or worsens *(Scale 0 improving – 10 worsening)*[36]					
economy	6.544	6.275	6.500	6.230	6.675
t ; p	*2.87 ; ***		*2.87 ; ***		*4.31 ; ****
cultural life	5.908	5.249	5.836	5.243	6.015
t ; p	*6.53 ; ****		*5.86 ; ****		*7.67 ; ****
place to live	6.843	6.193	6.771	6.186	6.938
t ; p	*6.75 ; ****		*5.72 ; ****		*7.77 ; ****

Note: * p<.05; ** p<.01; *** p<.001

[36] These three scales were, for reasons of consistency, recoded so that higher values indicate a more negative attitude towards immigrants.

4.2.6.6. Summary of online access panel polls

This empirical study investigated whether online access panels can be used to poll the opinions of the public in a way that they offer a representative indication of passive mass opinion, and whether weighting procedures have an impact on this representativeness to the general public. To this end, the survey results collected with volunteer online access panel members were compared to a probability-selected sample of the general population, who were interviewed face-to-face, namely from the *European Social Survey* (2006). Regarding the time needed to collect the survey information, a large difference was observed between the two survey modes. Almost one third of the online panel members invited responded on the very first day. It would be very expensive and difficult, if not impossible, to obtain a similar rapidity in the fieldwork process of a face-to-face survey. Moreover, the costs of conducting an online panel survey compared with those of a face-to-face interview were much lower. Such time and cost reductions make online panel surveys a very attractive data collection method.

However, the sample obtained by the online panel selection approach deviated significantly from the general population regarding age, even though this variable was used for pre-stratification. In particular, the oldest (65-74 years old) and youngest (18-24 years old) age categories were underrepresented in the panel sample, which is to be expected for the first group but not for the second group of respondents, who are generally considered as Internet conversant. Another remarkable observation concerns the group of people between 55 and 65 years old, who were substantially overrepresented in the panel sample, which could indicate that this group not only has sufficient time but also the necessary skills for participating in online panel surveys. This illustrates the importance of permanently monitoring the groups of Internet users and their Internet usage to select relevant weighting variables. As changes in Internet usage can be expected in the future, the participation in online access panel surveys may change accordingly.

By comparing the data collected from online access panel members with results obtained through a face-to-face survey of randomly sampled members of the general population, significant differences were observed in almost all of the response distributions for different themes such as work satisfaction, political attitudes and attitudes towards immigrants. In explaining the observed differences, both the specific characteristics of the respondents in the online access panel and the face-to-face survey as well as the features

of the different modes have to be considered. For the factual questions about people's living area and work situation, significant differences were observed. Since mode effects probably do not affect these questions, it suggests selectivity in the online access panel sample. The individuals recruited by different channels to join the online panel and to regularly respond to surveys seem to be a specific group of people who deviate in these characteristics from the general population. The observation of Duffy et al. (2005) that online panel respondents are more politically active could not be found in this particular study. Although it was observed that online panel respondents find it less difficult to form an opinion about politics compared to the general population, the suggestion that online panel respondents are more often interested in politics has to be put into perspective.

Additionally, a relevant mode effect has to be mentioned when the answers from an online survey are compared with a face-to-face survey. The presence of an interviewer during the face-to-face survey could make people respond differently than the respondents who answer the questionnaire through the Internet. For the questions regarding work satisfaction, rather diverse results were found, which were not always in line with the social desirability effect. For a theme that can be considered more sensitive to this mode effect, attitudes towards immigrants, the survey results were consistently in agreement with the different social distance between interviewer and respondent. The more negative attitudes towards immigrants, thus, can at least partly be explained by the difference in social desirability in both survey modes. Social desirability was used as a plausible explanation for some of the differences observed between the probability-based face-to-face survey and the non-probability based online panel survey. In suggesting this explanation, the most reasonable direction was presupposed. In order to study this more in depth, the mechanisms of social desirability should be incorporated from the start in the research design. Furthermore, this social desirability effect is considered to play a role in addition to the sample selectivity. Due to data limitations, however, it is not possible to give a more definite conclusion about the relative impact of both.

Post-stratification weights based on age, gender and education did not have a substantial impact on the results. This kind of weighting technique makes the proportions of the variables used comparable, but this does not necessarily make the answers of Web respondents and personally-interviewed people more comparable with regard to attitude questions. A possible solution is the propensity score adjustment of the online panel data (Duffy et al., 2005; Taylor, 2005). However, in this particular study the application of this weighting technique resulted in only minimal changes, and the differences between the

respondent groups sometimes became larger instead of smaller. Although it can be argued that other and more variables need to be used for the post-stratification weighting and propensity score adjustment, this study illustrates that weighting methods using basic variables did not make the online panel data more comparable with the general population. This implies that non-probability based online panels should be used with caution to monitor the passive mass opinion. Only when representativeness is not required, such as for exploratory studies or experimental tests, online access panels might be used with more confidence (Bethlehem & Stoop, 2007, p. 127; Malhotra & Krosnick, 2007, p. 312).

In sum, this empirical study demonstrated that the choice for an online access panel to monitor the opinions of the general public has important implications for the use of the opinion data obtained. More specifically, it was shown that the specific sampling design of this poll methodology affected the representativeness of the poll results to the general population. Weighting techniques that are frequently applied, and of which it is even reported in the news media that they make the online access panel sample representative of 'the Belgians' or 'the Flemish', could not make the opinion data more comparable to those from a probability-based survey in the general public. Consequently, news media reports based on poll results collected with an online access panel should not be published without the explicit disclosure of the limitations of this particular online poll method regarding the representativeness to the passive mass opinion.

As the present study is limited in attributing the observed differences to differential mode effect or sampling selectivity, future investigation is required to disentangle the mode and sampling effects. Furthermore, a standard procedure should be established for evaluating the representativeness of the online access panel sample, for example by comparing the online panel data with 'real world' figures for which census data are available (e.g. election results, urbanization and residence types).

4.2.7. Discussion and conclusion about influence of polling technique on public opinion

This chapter examined three particular polling methods that recently emerged and that may affect the individual opinion responses, of which the aggregation may be subsequently used as an indication of public opinion, or at least of the passive mass

opinion. Table 4-14 presents an overview of the characteristics of the three poll methods studied, namely the push polls, online daily polls and online access panel polls.

First of all, the method of data collection or mode can be influential on the poll results obtained. In Table 4-14, a distinction is made between traditional modes (e.g. face-to-face, telephone, mail) or newer poll techniques (e.g. Internet, SMS). Whereas push polls are mainly conducted by the traditional telephone method, the online daily polls and online access panel polls are examples of polls that use the Internet to collect opinion data. It may be expected that online polls will be increasingly used to monitor the opinions of the mass public, because of important advantages of online polls, such as time and cost reductions, as well as a general increase in the use of the Internet by the general public (Dillman, 2000, pp. 7-8; Vehovar et al., 2002, p. 229). However, polls using the Internet as a method to collect people's opinions have to deal with important divergences between the group of respondents and the mass public (Couper, 2000). Moreover, it has been demonstrated that weighting techniques that are frequently applied to online polls, based on poststratification variables and propensity scores, may not make their poll results more comparable to those of a traditional survey of the general public.

Table 4-14: Overview characteristics of push polls, online daily polls and online access panel polls

	Push polls	Online daily polls at news media Websites	Online access panel polls
Mode	traditional; telephone	newer; online via Website	newer; online panel
Media-involvement (pollster)	no media (political marketers)	news media (commission and conduct)	both media and non-media
Questionnaire *(influence on opinion expression)*	ad hoc; false, hypothetical information	ad hoc; additional information preceding (mostly dichotomous) poll question	broadly-based + ad hoc
Sampling *(influence on sample representativeness)*	non-probability; focus on sample size	non-probability; self-selection of respondents	non-probability; self-selection of panel members

Furthermore, the pollsters can take methodological decisions that could influence, deliberately or not, the poll results, and as a consequence the presentation of passive mass opinion. For example, push polls are mainly commissioned by political marketers, who wish to sway opinions. Therefore, it is important that push poll results should not be published by the news media and presented as 'public opinion'. To this end, various (American) public opinion organizations developed lists to recognize the illegitimate push polls and distinguish them from legitimate opinion research (Steeh, 2007; AAPC, 2005;

CMOR, 2005). Online access panels, on the other hand, can be used by different groups, both media and non-media pollsters, to survey the opinions of the public. The purpose to commission or conduct an opinion poll can vary between different groups. Whereas the media's aim to commission polls is mostly to make the sponsored poll results public, depending on the newsworthiness of issues, most of the poll commissioners sponsor polls in the first place for internal use, such as businesses or governments (Suhonen, 1997, p. 225). However, political parties and interest groups occasionally make their internal poll results public, deliberately or not. Finally, the online daily polls at the Websites of Flemish news media are a particular example of close media-involvement, as the news media not only commission these polls, but also conduct them themselves. In this way, the media can make methodological decisions regarding the question format and wording, which may be influential on the opinion responses obtained, and hence, on the indication of collective opinion that is shown at the news media Website, and which is occasionally also used in offline media-sources as news.

Regarding the potential influence of the questionnaire design on poll results, an important distinction can be made based on the questionnaire length. Following Barnett (2001, pp. 299-301), polls can consist of a broadly-based questionnaire, if different questions of a similar theme are asked (e.g. work satisfaction); or an ad hoc questionnaire, if only one, or a very few specific poll questions are used such as about a specific proposed bill. While online access panel polls may consist of either a broadly-based or an ad hoc questionnaire, push polls and online daily polls are typical examples of polls in which one or only a few ad hoc questions are asked. Such ad hoc polls may have the greatest influence on the poll results obtained, because a single, occasionally biased, question is asked. Especially push polls, which include false information in their poll questionnaire have the intent to affect the opinion responses. Although push pollsters may not have the intent to publish their poll results, they can potentially influence individual opinions, as well as the eventual voting behaviour.

Finally, regarding the potential influence of the sampling design on the representativeness of the poll results to the passive mass public, Table 4-14 distinguishes between probability-based or non-probability-based sampling procedures. In fact, all three poll methods studied (push polls, online daily polls and online access panel polls) have to deal with non-probability-based sampling. Whereas push polls do not implement any sampling design, the online daily polls have self-selection of the respondents and the online access panel polls have self-selection in the recruitment of panel members. From

the list of recruited panel members, then, probability-based sampling techniques can be used to select respondents, though initial chances of being selected for the panel in the first place remain unknown. These recent developments in online polling methodology may be due to technological progress (e.g. the availability of poll software to integrate at news media Websites), but also due to the news media demand for daily and timely poll news. This indicates that news media can have an impact on the type of polls regularly used to monitor opinions in the public and to publish them as an indication of passive mass opinion. The three case studies showed, however, that the use of poll results from push polls, online daily polls and online access panel polls as public opinion is problematic because of methodological hurdles to represent the general public.

Because the main aim of survey research is to measure opinions accurately, and to minimize the influence of the measurement instrument on the results obtained, the influence of a poll's methodology on opinion responses is inversely proportional to the quality of opinion surveys. Indications of such influence on the poll results was discussed for push polls, online daily polls and online access panel polls. However, it has to be noted that some types of surveys, such as deliberate polling, purposefully aim to influence opinion responses by providing the respondents with essential background information on the polled issues (Neijens, 2004; Bütschi, 1997). In this way, it is attempted to obtain more informed opinions.

Chapter 5.
Hinge Between Part I & II

This chapter aims to highlight key aspects of the previous chapters about interrelationships between news media, polls and opinions (Part I; Chapters 2, 3 & 4), and to introduce the empirical study of effects from exposure to poll publications on individual opinions presented in the subsequent chapters (Part II; Chapters 6, 7 & 8). Therefore, this chapter serves as a 'hinge' between the two parts of the dissertation.

5.1. Interrelationships between news media, polls and opinions (Part I)

An important aim of Part I was to gain insight into the intertwined relationship between news media and opinion polling. General impressions about this relationship stated in the introductory chapter (cf. Chapter 1) were substantiated by a brief historical review of public opinion polling (cf. Chapter 2; Subsection 2.1), as well as an empirical analysis of the current Flemish polling situation (cf. Subsection 2.2). While the former provided historical background information about the relationship between polling and news media, the latter produced essential empirical data about Flemish poll news that was previously lacking. For example, in absolute numbers, an increasing proliferation of opinion polls in the news was observed for Flanders, in line with worldwide trends previously observed (e.g. de Boer, 1995 in the Netherlands; Brettschneider, 1997 in Germany; Ladd & Benson, 1992 in the US; Andersen, 2000 in Canada). Indeed, it was found that the volume of poll news increased between 2000 and 2006 from 227 to 1473 published poll articles in the Flemish newspapers, though this refers only to absolute numbers as it was not controlled for the varying size of the newspapers over time. The centrality of polls in the news remained fairly stable over time, with a focus on poll-dominant articles. Additionally, the general impression of a close media-involvement in opinion polling was found for Flanders, since media were the most frequently mentioned commissioners of

the polls published in Flemish newspapers, though they were seldom mentioned as those who conducted the polls. This indicates that there is still a clear demarcation in Flanders between the news media as sponsors of the polls on the one hand, and the commercial research agencies that actually perform the polling on the other hand. This finding sharply contrasts with the US, in which the major news media organizations developed internal polling units to perform the opinion polling themselves as from the 1960s (cf. Subsection 2.1). Nevertheless, the empirical findings about media-attention to and media-involvement in opinion polls indicate that also in Flanders a close relationship between news media and opinion polls has been established. Consequently, a key question to be subsequently addressed is what implications this relationship may have for the opinions in the public.

This question is especially important to address because the empirical content analysis of print media suggested a manufacturing role of the Flemish newspapers in publishing poll news, because media-criteria to produce news can come into conflict with poll characteristics. Indeed, one of the empirical observations (cf. Subsection 2.4 for the full report of the results) was that although the absolute frequency of poll publications in Flemish newspapers increased during recent years, the methodological quality of these poll publications decreased. This indicates that newspapers prefer to report opinion polls in an unambiguous way (news criterion of unambiguity; Galtung & Ruge, 1965), by poorly disclosing methodological limitations of the published polls, rather than transparently disclosing the poll's methodology (cf. survey research standards: AAPOR, 2005; ESOMAR/WAPOR, 2005; NCPP, 2005). Consequently, the quality of published opinion polls cannot accurately be evaluated on the basis of news reports. It is however important to disclose the underlying polling methodology, given the observed media's focus on poll methods that can produce daily and timely poll news (e.g. online with a short fieldwork span; cf. Subsection 2.4.3). If it would be found in Part II that people's opinions are affected by poll publications, this would have serious implications for the way in which the Flemish news media (should) present opinion polls.

An accurate presentation of opinion polls in the news is important because a poll's methodology may influence the results obtained, which in turn can be used by the media as a representation of the more general 'public opinion'. Problems related to the use of aggregated poll results as public opinion (e.g. Bourdieu, 1979; Blumer, 1948; Thompson, 1966; Lowell, 1966) were discussed in Chapter 4 on the basis of three specific case studies of recent polling techniques. First, the discussion of push polls indicated that due

to the deliberate intention to influence (push) opinions and the lack of any sampling strategy, push poll results cannot be used by the media as a valid representation of passive mass opinion (as one form of the public opinion-concept; Bryce, 1966; Page, 2006; Kepplinger, 2008). Second, the description of online question-of-the-day polls at a Flemish quality news-media Website (*De Standaard Online*) illustrated that the ad hoc questionnaire formulated by the news media, and the non-probability self-selection of Website visitors may produce important biases in the opinion results shown to the public. Third, the empirical evaluation of the weighting techniques applied to correct for possible biases from an online access panel demonstrated that weights do not necessarily make the results more representative of the general population. These cases illustrate that a poll's methodology might affect the indication of passive mass opinion that news media disseminate to audience and policy-makers. If news media wish to use polls as an accurate indication of the mass opinion distribution, and not as a biased form of some kind of propaganda, the possible impact of a poll's methodology on the poll results obtained needs to be evaluated. This would be an even greater requirement if it would be observed in Part II that people use published poll information in their perceptions of collective opinion.

The empirical study presented in the next chapters of Part II primarily deals with the question of whether and to what degree media-disseminated polls can affect individual opinions. The relevance and importance of this question has been demonstrated by the chapters of Part I, in which a high media-attention to and close media-involvement in opinion polls was shown, as well as indications about a manufacturing role of the news media in publishing poll news. Furthermore, it was observed that some of the currently applied opinion polls suffer from methodological biases, and hence cannot be unambiguously reported in the news media as an indication of passive mass opinion. These observations discussed in the previous chapters illustrate the complex relationship between news media and opinion polls, as well as the importance of investigating potential effects from news media publications about polls on the opinions of the public.

5.2. Effects from exposure to poll publications on individual opinion (Part II)

The overall research question addressed in Part II is whether and to what degree poll publications in Flemish news media influence individual opinions? The central idea is that the degree of exposure to poll publications in the news may potentially affect individual

opinions. Thus, the main dependent variable are individual opinions about issues and the main independent variable is the intensity of exposure to poll publications in the news. A first sub-question to be addressed is whether and to what degree exposure to *general news media* affects opinions? News media are the most important disseminators of poll results and their interpretations to a wider public. Thus, impact of poll information on opinion can be studied as a particular case of information dissemination effects (Traugott, 1992, pp. 127-128). The visibility of polls in the news, the exact content published or the tone with which poll results are presented may potentially affect opinions (Scheufele & Tewksbury, 2007; McCombs & Shaw, 1972; Iyengar & Kinder, 1987; Kinder & Sanders, 1990; Chong & Druckman, 2007). A second sub-question is whether and to what degree exposure to *specific poll information* affects opinions? Polls give people an apparently clear indication of the distribution of mass opinion (Andersen, 2000; Lang & Lang, 1984; Gunther, Christen, Liebhart & Chih-Yun Chia, 2001), to which people can cognitively respond or being strategically influenced by them. Apart from such effects based on high information processing, people can also react to polls in a more affective way, due to contagion or cue taking (cf. Subsection 3.2.3; Hardmeier, 2008; Shiraev & Sobel, 2006; Petty & Cacioppo, 1986; Petty & Wegener, 1999).

In addressing these questions about effects from exposure to general news media and specific poll information, both moderators and mediators are important to consider. Firstly, any effect from poll publications on opinions can be moderated by individual characteristics. Processes of selective exposure to and selective retention of media information, the role of group norms, or the influence of opinion leaders may result in differential poll effects (see de Boer & Brennecke, 2003, pp. 37-38; 42; Katz, 1957; Lazarsfeld et al., 1948). In line with Zaller's (1992) RAS-model (cf. Subsection 3.1.5.1), it can indeed be assumed that effects of information dissemination differ depending on individual characteristics, such as political awareness (political knowledge and interest) and predispositions (partisanship). Such moderators can be included as interaction effects to study the varying effect of an independent variable on a dependent variable between subgroups (Baron & Kenny, 1986). Secondly, poll publications may affect personal opinions not only directly, but also indirectly through one or more mediators. In particular, the focus is on perceptions of collective opinion as a possible mediator of poll effects on individual opinions. Information about the opinions of distant, impersonal 'others', often learned from poll publications in the media, can be integrated in perceptions of collective opinion and influence people's personal opinions ('impersonal influence'; cf. Subsection 3.4.4; Mutz, 1998; Tyler and Cook, 1984; Mutz and Soss,

1997). Such a mediator refers to possible indirect effects of an independent variable (news media exposure) on a dependent variable (individual opinion) through an intervening variable (perception of collective opinion). 'Whereas moderator variables specify when certain effects will hold, mediators speak to how or why such effects occur' (Baron & Kenny, 1986, p. 1176).

To address the questions about effects from exposure to general news media and specific poll information empirically, Part II contains three chapters. The first subsection of the poll-effects study, reported in Chapter 6 aims to study the effects from exposure to general news media on opinions. This provides empirical insight into the role that news media can play in the individual opinion formation. To this end, an analysis of survey data seems an appropriate method. Especially the use of large-scale survey data representative for Flanders, such as from the academically-driven *European Social Survey* allows to study simultaneously direct and indirect effects of news media exposure on opinions, as well as interrelations between personal opinions and perceptions of collective opinion. Additionally, effects from related variables on opinions, such as political interest and attitudes towards opinion polls can be taken into account by testing an a priori model.

In the second subsection of the poll-effects study, presented in Chapter 7, the objective is to empirically investigate whether exposure to published poll information affects people's opinions, both personal opinions and perceptions of collective opinion. Thus, whereas Chapter 6 focuses on effects from exposure to general news media on opinions, Chapter 7 focuses on effects from exposure to specific poll results. In order to have control over this exposure to poll information, an experimental research design can be used, in which the researcher provides poll information to a randomly selected group of people (experimental group). Their opinions can be compared to another group of people who was not exposed to this poll information (control group). Such a controlled experiment enables to test the overall impact of poll results on opinions, as well as differential effects depending on individual characteristics.

Finally, the third subsection of the poll-effects study, provided in Chapter 8 aims to integrate insights from both the analysis of survey data of Chapter 6 about effects from exposure to general news media on opinions and the controlled experiment of Chapter 7 about effects from exposure to specific poll information on opinions. To this end, a natural field-experiment is designed to study poll-effects during a period in which an

intensified frequency of poll publications may be expected, such as before elections (cf. Subsection 2.4.3.4.a. about electoral peaks in the volume of poll news). In contrast to the general survey study, it is possible to focus more on specific information published by the news media about opinion polls, but in contrast to the controlled experiment, poll effects can be studied in a more natural setting. However, while in a controlled experiment respondents can be randomly assigned to an experimental group exposed to poll information and a control group not exposed to this poll information, this random assignment is not possible in a natural experiment. But as an alternative, respondents can be assigned post-hoc to a quasi-experimental and quasi-control group, depending on their actual exposure and attention to opinion polls previously published in the news media. In this way, opinion effects from published polls can be studied as they occur in their 'natural environment'.

These three subsections of the empirical study of effects from poll publications on opinion, presented in three subsequent chapters of Part II focus on effects from polls about *general topics*. Compared to effects from electoral polls (e.g. Navazio, 1977; Fleitas, 1971; Ceci and Kain, 1982; McAllister & Studlar, 1991; Blais et al., 2006; Faas et al., 2008), effects from non-electoral issues on individual opinions have been largely understudied (some examples are Mutz, 1998; Marsh, 1984; Nadeau, Cloutier & Guay, 1993). For each subsection, different general, though politically-relevant issues are chosen to study poll effects on opinions empirically. These are chosen based on the degree of media-attention to the issues and the number of opinion polls published about them in the Flemish news media, shortly before the conduct of each empirical subsection of the study.

Part II
Effects from Exposure to Poll Publications on Individual Opinion

Chapter 6.
Survey Analysis of Effects from Exposure to General News Media on Opinions

Part I demonstrated that in Flanders a close and symbiotic relationship has been established between news media, opinion polls and public opinion (e.g. see content analysis of print articles, Chapter 2; study of online daily polls, Chapter 4), which has manifested itself in an increased proliferation of opinion polls in the news and a close involvement of the news media in opinion polling, by commissioning or conducting polls (Butler, 2007; Mann & Orren, 1992; Shiraev & Sobel, 2006). Because of this close relationship, it is important to investigate the role news media can play in the formation of individual opinions, and in particular the impact media-publications about polls can have on opinions. Therefore, this first chapter in the second part of the dissertation investigates the impact of exposure to *general news media* on opinion by an analysis of survey data, after which effects of exposure to *specific poll information* on opinion are further investigated by a controlled experiment (Chapter 7), as well as a natural experiment (Chapter 8).

News media are an important source of information about the opinions of others in society, because they disseminate news about the opinions of the public on various political and social issues, not in the least by publishing opinion poll results (Kim & Weaver, 2001; Lang & Lang, 1984; Gunther et al., 2001). Therefore, the present study focuses on effects from media-exposure (stimulus; main independent variable) on individual opinions in the audience (response; main dependent variable). Effects from exposure to news media on opinion may occur due to the visibility of an issue in the news media, the content disseminated (e.g. opinion poll results) or the tone with which this content is presented, namely whether an issue is portrayed as neutral, positive, negative or mixed positive and negative (Scheufele & Tewksbury, 2007; McCombs & Shaw, 1972; Iyengar & Kinder, 1987; Kinder & Sanders, 1990; Chong & Druckman, 2007).

Before specific effects from poll information on opinion are studied (cf. subsequent Chapters 7 and 8), it is relevant to investigate first effects of exposure to general news media on opinion, because effects from poll publications combine effects from both news media and poll information. Therefore, the present chapter aims to empirically address the following questions: to what degree does exposure to news media influence personal opinions? And does this influence work directly from news media on opinions, or also indirectly through one or more mediators? More specifically, to what degree does exposure to news media affect personal opinions by affecting first perceptions of collective opinion? In order to study simultaneously these direct and indirect effects of news media exposure on opinions, a path analysis was conducted. Such an analysis consists of a sequence of multiple regressions and correlations, and hence can take into account additional interrelationships, such as between frequency of news media exposure, degree of political interest and people's attitudes towards opinion polls. In order to study the relationships between the variables of interest, the path model was tested for three different general issues, namely Flemish independence, immigration policy and social services. The empirical results of these path analyses were presented at the 62th WAPOR-conference in Lausanne (Sonck & Loosveldt, 2009). In the next section, the a priori model that structured the path analysis is developed based on previous theoretical elaborations of individual opinion formation and the role that media can play in it, directly and/or indirectly (cf. theoretical framework in Chapter 3).

6.1. (In)direct media-effects on opinions

The main dependent variable on which media-effects will be analyzed are individual opinions on different issues. An individual opinion can be defined as the expression of an evaluative judgment on an issue, which can vary in direction and strength (Ajzen, 2001; Krosnick & Abelson, 1992; Price, 1992). Theoretical perspectives on the formation and expression of opinions (cf. Subsection 3.1) range from meaningless 'nonattitudes' due to lack of political sophistication (Converse, 1964) to real and pre-existing opinions (Tourangeau et al., 2000), which may be inaccurately measured (Achen, 1975). Somewhere in between these perspectives can be placed Zaller's R(eceive)A(ccept)S(ample)-model (1992) that conceives opinions as temporary constructions based on an array of considerations with a varying degree of saliency. In this viewpoint, it is assumed that people receive information, may or may not accept this information and subsequently express their opinion on the basis of those considerations that are most salient (Zaller, 1992).

In the empirical research of Hill and Kriesi (2001), these different theoretical perspectives on opinion formation and the role that media can play in it were integrated, by distinguishing three groups of people. Firstly, there was a group of people that did not change their opinions easily in the light of new information, as their opinions are embedded in an integrated belief system. This group of opinion holders observed resembles Converse's (1964) elite of politically sophisticated people. Secondly, a group of vacillating changers was observed who changed their opinion responses in an apparently random way, though they used minimal cues of the survey context to express their opinion. This resembles Zaller's (1992) conception of opinions as temporary constructions that may easily change due to small modifications in the information provided. Thirdly, a group of durable changers was distinguished who meaningfully changed their opinion based on new information. Such real opinion change was implicitly assumed by cognitive psychologists, such as Tourangeau et al. (2000), as well as by Achen (1975). This conceptualization of individual opinion formation and expression, which divides the public in three groups, implies that there will indeed be some people who change their opinion in the light of new information provided, such as from the external media-flow of communication.

Effects from the media-flow of communication on individual opinions have been investigated since the 1920s. In the historic development of general theories about media-effects, a paradigmatic shift has occurred from the traditional perspective of powerful and direct media-effects (e.g. Lasswell, 1927; Lippmann, 1922) to the perspective of limited and indirect media-effects (e.g. McCombs & Shaw, 1972; Iyengar & Kinder, 1987; Mutz, 1998). Within the latter paradigm, the link between media exposure and opinions has been primarily investigated by the media-effects theories agenda-setting, priming and framing (cf. Subsection 3.2.2). For example, the agenda-setting theory stipulates that putting issues on the media agenda may affect the importance people attribute to these issues, which in turn may affect the formation of personal opinions. Thus, this theory links the media agenda to the public agenda with regard to issue saliency (Scheufele & Tewksbury, 2007). While the first level of agenda-setting investigates influences from the frequency with which issues are covered in the media on the perceived importance of issues ('what to think about'), the second level of agenda-setting investigates influences from the way in which topics are covered, or what attributes of issues are stressed in the media on opinions ('what to think'; McCombs & Shaw, 1972).

This second level of agenda-setting is closely related to the priming theory, because it also assumes that specific media-content can affect the aspects on which people base their evaluative judgments or opinions (McCombs & Shaw, 1972; McCombs & Reynolds, 2002, pp. 14-15; de Boer & Brennecke, 2009, p. 202). In particular, the priming theory argues that repeated media coverage of an issue can affect what considerations people will use in their opinion. The psychological basis for such priming is selective attention of the public to issues covered by the media (McCombs & Reynolds, 2002, p. 14). The framing theory, on the other hand, assumes that the way in which an issue is framed or interpreted by the news media can affect the public's interpretation and understanding of that issue. Whereas this theory is mainly concerned about *applicability* effects based on interpretative schemes ('how we think about an issue'), both agenda-setting and priming theories are primarily concerned with *accessibility* effects due to issue saliency ('whether we think about an issue'; Kepplinger, 2008, pp. 197-198; Scheufele & Tewksbury, 2007; de Boer & Brennecke, 2009, p. 208). The latter theories are based on information-processing models in which it is assumed that people express opinions that are most salient or accessible to them, such as Zaller's RAS-model (1992) or the information-processing models for expressing survey responses from cognitive psychologists (e.g. Tourangeau et al. 2000).

In addition to direct links between media exposure and opinions, it has been acknowledged since the paradigmatic shift to limited effects that the flow of communication from the mass media may also affect people in an indirect way. For example, the 'conditional effects' approach hypothesized that media-effects are conditional rather than universal on individuals and societies. This implies that third variables can mediate effects from media exposure on opinions (McLeod & Reeves, 1980; Holbert & Stephenson, 2003). In particular, the hypothesis of the 'two-step flow of communication' from Lazarsfeld et al. (1948) stipulated that media can have indirect effects on the general public by first influencing opinion leaders. More specifically, this two-step model of media-effects proposes that mass media primarily affects opinion leaders, who in turn may influence a more broader public who pays less attention to the media and/or are less politically interested than these opinion leaders (Katz, 1957; Lazarsfeld et al., 1948; Klapper, 1960).

In line with this reasoning, Mutz's theory about 'impersonal media influence' (1998) assumes that knowledge about the opinions of distant, impersonal 'others', often learned

from the media, may influence people's personal opinions. Accordingly, mass media may not only affect opinions directly, but also indirectly, by affecting first perceptions of collective opinion, which in turn might influence personal opinions (Mutz, 1998). This distinction between personal opinions and perceptions of collective opinion is particularly important for studying effects from published poll publications on opinions, because poll reports in the news give people an apparently clear indication of collective opinion on specific issues (Andersen, 2000; Kim & Weaver, 2001; Lang & Lang, 1984; Gunther et al., 2001). Therefore, it may be assumed that media, and in particular poll publications, would primarily affect perceptions of collective opinion (Mutz & Soss, 1997).

Previous research from Tyler & Cook (1984) has found that societal-level and personal-level judgments are distinct and that media can affect these societal-level judgments without influencing personal-level judgments. Indeed, in an initial and replicated experiment, the scholars observed that media reports affected judgments about societal risks, but not about risks to the person's self (Tyler & Cook, 1984). Furthermore, Mutz (1998) found in a quasi-experiment that a persuasive newspaper agenda about the issue of low-income housing did not affect the personal opinions of readers, nor their personal concern about that issue, but did affect their perceptions of collective opinion and perceived collective concern about the issue, while opinions of the non-readers did not change significantly. Thus, the observed media-effects were on the collective perceptions rather than on the individual opinions (Mutz, 1998, pp. 81-90; Mutz & Soss, 1997). In line with this research, Nelson, Clawson and Oxley (1997) experimentally found that the way in which media portray an issue affected people's perceptions of that issue, which ultimately affected personal opinions on that issue. By path analysis, it was found that issue perceptions indeed mediated effects from media content on opinions (Nelson, Clawson & Oxley, 1997).

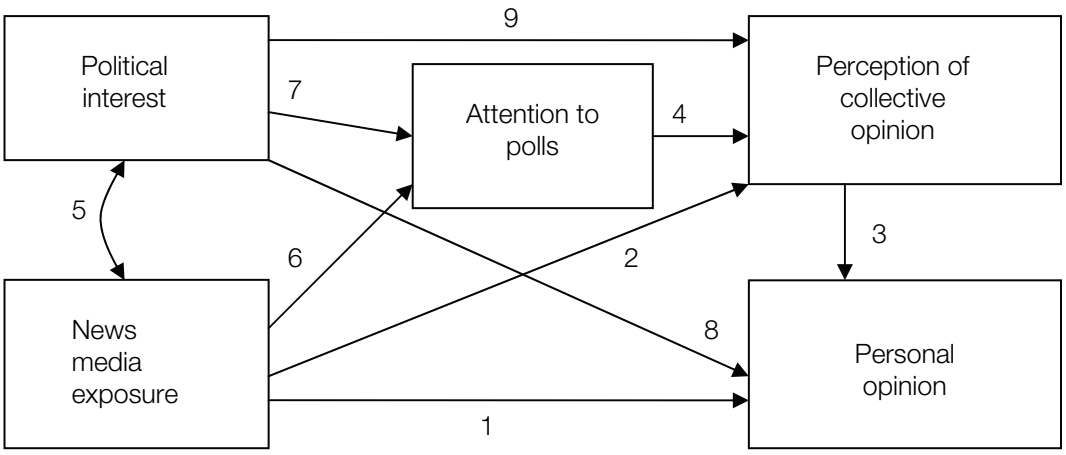
Considering personal opinions and perceptions of collective opinion as distinct does not mean that they are unrelated. For example, Wojcieszak and Price (2009) found a significant positive, though moderate, correlation between personal support and perceived public support on different issues (i.e. teaching morality, death penalty and gun control). This relationship between personal opinions and perceptions of collective opinion persisted in multivariate models, controlling for socio-demographic background variables, political participation, news media use and political interest (Wojcieszak & Price, 2009). Several theories have tried to explain the relationship between personal opinions and perceptions of collective opinion (e.g. see de Boer & Brennecke, 2003; Kepplinger,

2008). For example, if the apparent unanimous majority that is created by published poll results is regarded as a collective 'group opinion', it can be influential on people's own opinions as conformity may occur (Lang & Lang, 1984, p. 134). This is closely related to the notion of 'reference groups', as the perception of what a particular group of others think might guide people in their own opinion formation (Glynn, Ostman & McDonald, 1995, pp. 253-254). In a broader sense, such group opinion can be equated to 'public opinion'. As discussed in Chapter 4 of Part I, different definitions have been attributed to the public opinion concept. In the present dissertation, only the passive form of mass opinion, or collective opinion is taken into consideration, which refers to the distribution of individual opinions in the general public. Perceptions of collective opinion, then, can be considered as a particular form of how public opinion is perceived. The next section summarizes the a priori expectations for the path analysis.

6.2. Expectations for the path analysis

The a priori model tested by path analysis using general survey data is mainly based on Mutz's (1998) theory about impersonal influence from the media on personal opinions, by affecting perceptions of collective opinion, for which previous research found empirical support (e.g. Mutz & Soss, 1997; Mutz, 1998; Tyler & Cook, 1984; cf. Subsection 3.4.4). The focus of the study is on general *news* media-effects, because it may be assumed that poll reports about political issues are most frequently part of news content. The model contains both *exposure to news media*, in terms of the frequency with which people watch television news or read about politics in newspapers, as well as *attention to polls*, in terms of the general frequency with which polls are noticed in the media. Exposure and attention can be considered two prerequisite conditions for media-effects (Slater, 2004, p. 174). Put differently, people have to be exposed to the news and have to pay attention to polls in order to be influenced by poll publications. Following Chaffee and Schleuder (1986), measures of attention to political communication can account for more variance in effects from media than merely measures of media exposure. Therefore, measures of both exposure to news media and attention to polls were included in the model to explain media-effects on opinions. The expected relationships of the path model are summarized in Figure 6-1.

Figure 6-1: Hypothesized path analytic model. Arrows represent the effect of one variable on another



The overall objective of the path analysis is to investigate whether perceptions of collective opinion can mediate news-media effects on personal opinions (news media exposure → perceptions of collective opinion → personal opinions). Therefore, a first set of expectations in the model based on Mutz's theory about impersonal influence is to what degree exposure to news media influences opinion. First, a direct news media-effect on personal opinions (1. news media exposure → personal opinions) was studied. Based on the integration of different theoretical viewpoints on individual opinion formation and expression (Converse, 1964; Tourangeau et al., 2000; Achen, 1975; Zaller, 1992; Hill & Kriesi, 2001), it may be inferred that media-effects on individual opinions can occur. For example, media coverage of polls may affect the importance attributed to issues by the public (agenda-setting) and what considerations are primed to be salient (priming), while the way in which an issue is framed by the media may affect how people interpret that issue (framing (Scheufele & Tewksbury, 2007; McCombs & Shaw, 1972; McCombs & Reynolds, 2002; Iyengar & Kinder, 1987; de Boer & Brennecke, 2009). Second, in addition to a direct news media-effect on personal opinions, an indirect news media-effect through perceptions of collective opinion was explored in the model. This indirect news media-effect on personal opinions implies a direct news media-effect on perceptions of collective opinion (2. news media exposure → perceptions of collective opinion). However, for example, Wojcieszak and Price (2009) did not found a significant direct effect of news media exposure on collective perceptions. However, since this was not in line with the expectations of the scholars, they suggested that the issues studied might not have been very salient in the news at the time of the study or that respondents had well-formed perceptions about these issues (Wojcieszak & Price, 2009).

Another implication of testing the indirect effect of news media exposure on personal opinions through perceptions of collective opinion is that these perceptions affect personal opinions (3. perceptions of collective opinion → personal opinions). Within the study of poll effects on personal opinions, it seems reasonable to assume this causal direction, based on the impersonal influence hypothesis of Mutz (1998). Because news-media provide an important indication of collective opinion on different issues by reporting on opinion polls (Andersen, 2000; Kim & Weaver, 2001; Lang & Lang, 1984; Gunther et al., 2001), it may be assumed that poll information about the opinions of distant impersonal 'others' would primarily be integrated in perceptions of collective opinion, which in turn might influence personal opinions (Mutz, 1998). Indeed, it has been previously found that news media exposure primarily affects perceptions of collective opinion, rather than directly personal opinions. But due to a close relationship between perceptions of collective opinion and personal opinions, these perceptions may eventually affect personal opinions (Mutz, 1998; Tyler & Cook, 1984; Mutz & Soss, 1997). In line with this impersonal influence theory of Mutz (1998), it was expected that attention to opinion polls in the news would primarily affect perceptions of collective opinion, which could in turn affect personal opinions (4. attention to polls → perceptions of collective opinion → personal opinions). This follows the argumentation about indirect news media effects on personal opinions, through the mediating effect of news media on collective perceptions. But in addition to effects from news media exposure, attention to polls is used as another independent variable (Slater, 2004; Chaffee and Schleuder, 1986).

In addition to the effects of news media exposure on opinions and the relationship between perceptions of collective opinion and personal opinions, the model simultaneously studied interrelationships between frequency of news media exposure, degree of political interest and people's attention to opinion polls. More specifically, four a priori expectations are formulated, generally based on the theoretical concept of 'political awareness', which assumes close interrelationships between political interest, news media exposure and opinion formation (Zaller, 1992; Saris & Sniderman, 2004; Hill & Kriesi, 2001; Billiet, Swyngedouw & Waege, 2004). First, it can be assumed that people who follow the news are probably more interested in politics, though it might also be true that following the news leads to a higher political interest (Weaver, 1996, p. 44). Therefore, the level of political interest and the frequency of news media exposure are expected to correlate mutually and positively (5. news media exposure <-> political interest). Second, it seems reasonable to suppose that a higher frequency of news-media exposure would be positively related to a higher degree of exposure to opinion polls, and

hence increases the possibility that people actually noticed opinion polls in the news. Accordingly, it is studied whether news media exposure has a positive effect on people's attention to polls (6. news media exposure → attention to polls). Third, it may be a priori expected that persons who are generally interested in politics would pay more attention to polls in the news because many of the polls published concern political issues (see the empirical analysis of Flemish newspaper articles about polls, in Chapter 2, in which it was found that 46% of the published poll articles concerned electoral polls and about 20% of the general issue polls were related to politics). Thus, it is assumed that political interest has a positive effect on attention to polls (7. political interest → attention to polls). Finally, it is controlled for the relationships of political interest with personal opinions (8. political interest → personal opinion) and perceptions of collective opinion (9. political interest → perceptions of collective opinion).

6.3. Research design

To study simultaneously the direct and indirect effects from exposure to news media on opinions, the relationship between perceptions of collective opinion and personal opinions, as well as the interrelationships between news media exposure, political interest and attention to opinion polls, a path analysis was conducted, using general survey data from the *European Social Survey*. First, information about this survey and the sample obtained is provided, as well as information about the ESS-questionnaire, after which the variables under consideration and the method of analysis are presented.

6.3.1. Sample information and weighting

The data from the fourth round of the *European Social Survey* (ESS, R4, 2009)[37] for the Flemish (Dutch-speaking, northern) region in Belgium were used, because this round included questions that were added purposefully for the present analysis to the standard ESS-questionnaire (cf. next Subsection 6.3.2). The ESS is an academically-driven face-to-face survey, organized every two years in over 30 European countries with a high-standard survey protocol, including refusal conversion. In Belgium, a two-stage probability sampling design was implemented, stratified according to provinces and municipalities, in which individual persons aged 15 years and older were selected by simple random sampling, based on the national register-database. The face-to-face

[37] Detailed information about the *European Social Survey* and its methodology can be found online, at: www.europeansocialsurvey.org; or at: ess.nsd.uib.no.

interviews were conducted during five months, and more specifically between November 2, 2008 and March 23, 2009 (Heerwegh, Loosveldt & Vandenplas, 2009; Vandenplas, Heerwegh & Loosveldt, 2009). The response rate for the Flemish region was 58.9 percent (calculated according to AAPOR's Response Rate RR1-definition; AAPOR, 2009), and the effective sample contained 1032 completed interviews.

The representativeness of the ESS-sample regarding background characteristics to the general population in Flanders was explored first, by comparing the ESS-sample with the target population of persons aged 15 years and older, living in the Flemish region of Belgium. This comparison included three basic background characteristics age, gender and education (Source: Labour Force Survey; LFS, 2005). Results of this comparison are shown in Table 6-1.

Table 6-1: Comparison of basic background characteristics age, gender, education (%; n) between ESS-sample and population of Flemish persons aged 15 years and older

	ESS-sample (n=1032)		Population (Source: LFS) (n=5064778)	
	%	n	%	n
Age				
15-24	15.60	(161)	14.09	(713735)
25-34	14.15	(146)	15.13	(766149)
35-44	17.83	(184)	18.44	(934037)
45-54	18.02	(186)	17.29	(875557)
55-64	15.02	(155)	13.73	(695246)
65+	19.38	(200)	21.32	(1080053)
Sig. Test		$Chi^2(df=5)=2.95$; p=.7072		
Gender				
Male	49.32	(509)	48.96	(2479646)
Female	50.68	(523)	51.04	(2585132)
Sig. Test		$Chi^2(df=1)=0.03$; p=.8689		
Education				
Lower secondary	33.50	(343)	43.28	(2191795)
Higher secondary	36.04	(369)	33.61	(1702368)
Higher education	30.47	(312)	23.11	(1170615)
Sig. Test		$Chi^2(df=2)=24.05$; p<.0001***		

Note: *** p<.001

Table 6-1 shows that for age and gender the ESS-data represented the target population of Flemish persons aged 15 years and older, since these basic background characteristics in the sample did not significantly differ from the target population. For education, on the other hand, the sample contained significantly fewer people who obtained a degree of lower secondary education than the population, and contained significantly more higher-educated persons than the general population. Therefore, the information in this table was used to post-stratification weight the ESS-data for the cross-

classifications of the variables age (6 classes), gender (2 classes) and education (3 classes), so that the data were representative for the Flemish population of 15 years and older, regarding the basic background characteristics age, gender and education. The mean of the post-stratification weights applied was 1 (SD=.36), ranging from .59 (for males in the oldest age category with a degree of higher education) to 3.7 (for females between 35 and 44 years old with a degree of lower secondary education).

6.3.2. Questionnaire and issue selection

The standard ESS-questionnaire comprised useful questions about opinions on several general issues, the degree of political interest and various socio-demographic background variables (e.g. age, education). In addition to this standard questionnaire, it was possible to include additional questions relevant for the present analysis. General procedures of the ESS about the inclusion of such additional questions stipulated that they had to be included at the end of the face-to-face interview. Furthermore, because of budgetary reasons, the added questionnaire had to be short, with a maximum of five minutes additional interview time. More specifically, questions about issue-importance, perception of collective opinion and general attention to opinion polls were added to the standard ESS-questionnaire of the fourth round. These additional questions were only added to the Dutch-speaking ESS-questionnaire for the Flemish region. Before the next section goes into the specific variables under consideration, the selection of the three issues (independence of Flanders, immigration policy, social services) for the path analysis is motivated.

For reasons of consistency between the present investigation of effects from general news media exposure on opinions by survey data and the subsequent experimental test of effects from specific poll information on opinions (cf. next Chapter 7), which was however conducted previously in time, the issues selected to study by the ESS-data mainly depended on the topics that were selected for the experimental test (cf. Issue selection for the experiment in Subsection 7.3.2). Additionally, the '*ESS Event Reports*' were subsequently used to have an indication of the degree of media-attention attributed to events that were related to questions included in the ESS-survey[38], and hence to the topics selected for path analysis. These reports contain a list of events that received

[38] The list of events for the participating countries and different survey rounds can be found online at:
http://www.europeansocialsurvey.org/index.php?view=venueevents&id=4%3Abelgium&option=com_eventlist&Itemid=334

prominent media-attention because they were front-page news or appeared regularly in large articles before and during the ESS-fieldwork in the different participating countries. For Belgium, media-events were monitored from two months prior to the ESS-survey until the end of the fieldwork (and more precisely between September 9, 2008 and March 23, 2009). Newspapers in Flanders and Walloon, as well as the website of the Flemish public television channel were used as information sources[39]. In total, 186 events were reported for Belgium, which were not further divided between the regions (Heerwegh, Loosveldt & Vandenplas, 2009, pp. 13-14).

The first topic selected, the independence of Flanders was very topical at the moment when the experiment was conducted (cf. Chapter 7; Subsection 7.3.2) and it was considered relevant to include an opinion question about this issue into the ESS, in order to obtain representative data on the topic, when it received much less media-attention. Whereas before the experiment, many polls on the particular issue were published in the Flemish news media, no particular poll about the independence of Flanders was published before the ESS-interviews. Furthermore, the *ESS Event Reports* mentioned only two events related to communal issues that received much media-attention in Belgium before the conduct of the ESS-survey (between September 9 and November 1, 2008), and one such event during the ESS-fieldwork (between November 2, 2008 and March 23, 2009). Additionally, three events were reported about the formation of a new federal government in Belgium during the fieldwork. However, none of the reported events mentioned the independence of Flanders. Since this topic of the Flemish independence did receive much media-attention before the experiment (and in particular before the initial experiment conducted between January 28 and February 29, 2008; cf. Chapter 7), but did not receive much media-attention before the ESS-survey, it can be considered an issue of which the topicality in the news highly fluctuates over time. Therefore, it can also be considered an issue upon which perceptions of collective opinion may fluctuate accordingly. For example, if the possibility of an independent Flanders is heavily covered in the media, people may infer from this that also in the general opinion climate, such a possibility of an independent Flanders is serious. Because of such media-

[39] The information sources for monitoring media-events in Belgium were the following: the Dutch-speaking quality newspapers *De Standaard*, *De Morgen*, *De Tijd* and the popular papers *Het Laatste Nieuws*, *Het Nieuwsblad*, *Gazet van Antwerpen*, *Het Belang van Limburg*; the French-speaking quality newspapers *Le Soir*, *La Libre Belgique* and the popular papers *La Dernière Heure*, *Vers l'Avenir*; as well as the website of the Dutch-speaking public television channel *VRT* at *www.deredactie.be* (Heerwegh, Loosveldt & Vandenplas, 2009, pp. 13-14).

coverage about the Flemish independence, eventually personal opinions might be affected as well.

The second topic selected about immigration policy was used because attitudes towards immigrants may be considered more stable over time than those about an issue with fluctuating topicality in the news media such as the independence of Flanders. The issue was somewhat less topical at the moment of the experiment, as well as at the moment of the ESS-interview, though this issue is mostly present in one form of another in the general news media content. For example, the *ESS Event Reports* contained four events involving ethnic minorities or asylum seekers before the ESS-survey and two such events during the fieldwork. These include the reporting of illegal immigrants staying in the sports hall of a Belgian university or the visit of the Turkish prime minister to Limburg, where a lot of Flemings with Turkish roots live. The *Ess Event Reports* do not mention an opinion poll about the issue that received extensive media-attention before or during the ESS-fieldwork. Compared to the topic of the Flemish independence, perceptions of collective opinion and personal opinions may be less easily swayed by the news media exposure, though the general reporting about different aspects of the topic may generate possible effects.

Finally, the third topic selected was about social services. Although the experiment used a question about retirement income, it was not possible to use this again in the analysis of survey data, since the fourth round of the ESS did not contain a question about this topic. Therefore, an alternative but related topic was selected to study, the social services. It was not topical at the moment of the ESS-interview. Indeed, the *ESS Event Reports* contained only one event related to social services before the ESS-survey and two during the fieldwork. These included a report that Belgium's social security system would be 1.7 billion euros in the red by the end of 2009 and a report about the wage accord between unions and employers. Furthermore, no poll about the issue was reported to be front-page news before and during the ESS-fieldwork. Since this issue did hardly receive media-attention, no effects of exposure to news media on perceptions of collective opinion and personal opinions may be expected.

6.3.3. Variables used

The variables used for the path analysis are presented in this section. Appendix C gives an overview of the exact question wordings for the additional questions included in the

ESS, as well as references to the standard ESS-questionnaire for Flanders, which can be found online[40].

6.3.3.1. Opinions: personal opinions and perceptions of collective opinion

The main dependent variable in the path analysis are the personal opinions, while the main mediator of news media effects on these personal opinions are the perceptions of collective opinion. The personal opinions were measured by four or five-point scales measuring the degree to which people agreed with an issue, while the perceptions of collective opinion were measured by percentage scales (between 0 and 100%; no answer categories were provided) on which people could estimate the percentage of other Flemish people agreeing with the same issue. These personal opinions and perceptions of collective opinion were surveyed on three particular topics: the independence of Flanders, immigration policy and social services.

Regarding the first topic, the Flemish independence, the standard ESS-questionnaire did not contain any questions. Therefore, a question about the personal opinion and a question about the perception of collective on this topic were additionally included in the ESS-questionnaire (in the additional Part V). The personal opinion question was a five-point scale on which respondents could indicate to what degree they agreed with the independence of Flanders (from 1=strongly agree, to 5=strongly disagree; reverse coded so that higher values mean stronger agreement; M=2.61; SD=1.27). It was found that 52.2 percent of the respondents (strongly) disagreed with the Flemish independence. In line with previous research (e.g. Swyngedouw & Rink, 2008), only 8.5 percent of the respondents strongly agreed with the specific opinion question on the independence of Flanders. The perception of collective opinion about the Flemish independence was measured by a percentage scale (0-100%) on which people estimated the state of collective opinion about this topic. Respondents perceived on average that 41.8 percent (SD=19.1) of the other Flemish people favoured the independence of Flanders.

About the second topic, immigration policy, the standard ESS-questionnaire contained several personal opinion-questions about allowing people to come and live in Belgium (core questionnaire: B35-B40). The present study focused on the specific question of allowing people from poorer countries outside Europe to live in Belgium (B37; with four answer categories from 1=allowing none, to 4=allowing many people; reverse coded so

[40] In particular, the ESS-questionnaire for Round 4 can be downloaded from the following website: http://www.europeansocialsurvey.org/index.php?option=com_content&view=article&id=63&Itemid=356

that the higher the values, the more supportive of a restrictive immigration policy; M=2.43; SD=.87). It was found that 43.1 percent of the respondents answered that only a few or none of these people from poorer countries outside Europe should be allowed to live in Belgium. About this topic, a question about people's perception of collective opinion was added to the ESS-questionnaire (additional Part V). It was observed that the respondents perceived on average 43.3 percent (SD=22.5) of other Flemish persons agreeing that none or only a few people from poorer countries outside Europe should be allowed to live in Belgium.

Finally, concerning the third topic, the social services in Belgium, the main ESS-interview contained several opinion questions (core questionnaire: D21-D50), but it was focused on the specific statement that social services make people lazy (D27). It was observed that about as many respondents (strongly) agreed (38.2%), or (strongly) disagreed (37.4%) with this statement that social services make people lazy (five-point scale reverse coded; the higher the values, the more agreement with this statement; M=3.03; SD=1.0). Similar to the other topics, a question about the perception of collective opinion was included at the end of the ESS-questionnaire (in additional Part V). It was found that respondents perceived 40.4 percent (SD=19.7) of other Flemish persons agreeing with the statement that social services make people lazy.

6.3.3.2. Frequency of news media use: watching television news and reading about politics in newspapers

Whereas the main dependent variable in the path analysis are the personal opinions, the main independent variable is exposure to news media. In order to study news media-effects on opinions, the standard ESS-questions concerning people's exposure to news media were used (for a discussion of these variables, see Coromina & Saris, 2009). In particular, the survey questiosn related to television news and newspapers were used, because these might be considered the most important media-channels through which people receive poll publications. The ESS-survey first asks respondents about the average total time of watching television and reading newspapers, after which additional questions are asked about the average time of watching television *news* and reading *about politics* in newspapers. These additional questions about news media exposure were used in the analysis. They surveyed the frequency of news media exposure on eight-point scales (from 0=not at all, to 7=more than three hours): how much time is spent on an average weekday on watching news and political programs on television; and how much time is spent on an average weekday on reading about politics and current affairs in

newspapers (respondents who did not watch television or read newspapers in general were classified in the zero-category of exposure to news media). It was found that respondents spent on average more time on watching news on television (M=1.81; SD=1.20), than reading about politics in newspapers (M=.73; SD=.86). Instead of constructing a mean scale of these news media variables, it was opted to perform the path analyses separately for watching television news and reading about politics in newspapers. The fairly low bivariate correlation between these media-variables (r=.19), which were however measured by identical frequency-scales indicated dissimilarities between them. Hence, they might also perform different effects on opinions. Therefore, they were used separately in the analyses, instead of combining them into one variable of news media exposure. The frequency values of both watching television news and reading about politics in newspapers were categorized into four categories, due to their right-skewed distribution. These new variables ranged from (1=) zero hours news-media exposure to (4=) more than one hour news-media exposure per day (M_{TV}=2.69; SD_{TV}=.90; M_{NP}=1.67; SD_{NP}=.80).

6.3.3.3. Poll attention

Representative information about attitudes towards opinion polls was obtained by adding questions to the ESS-questionnaire (in additional Part V). For the path analysis, two items about attention to opinion polls in the media were added. These were measured on four-point scales from (1=) (almost) never to (4=) very often, based on the question wording used by Irwin & Van Holsteyn (2002). It was observed that respondents paid on average somewhat more attention to polls about general topics (M=1.60; SD=.78) than to polls about electoral topics (M=1.51; SD=.73). It has to be noted, however, that many respondents answered that they paid (almost) never attention to opinion polls about general topics (61%) or electoral topics (56%). These variables were used to compute an average measure of poll attention (Cronbach's alpha=.75; M=1.55; SD=.68). These univariate results for poll attention in Flanders were rather low, compared to, for example, Irwin and Van Holsteyn (2002), who observed that most of the Dutch voters came across opinion polls before the elections of 1986, 1998 and 2002. Likewise, Lavrakas et al. (1991) observed that 71 percent of Americans reported to be aware of opinion polls during the 1988 presidential elections. However, the lower percentages of poll attention in the ESS for Flanders might be due to the fact that this survey was not conducted very close to an election.

6.3.3.4. Political interest

Political interest was measured by a four-point scale on which people could indicate their degree of interest in politics in general (from 1=very interested in politics, to 4=not at all interested; reverse coded; the higher the scores, the higher the interest in politics; M=2.34; SD=.90). Almost half of the respondents reported to be not at all, or hardly interested in politics (48.16%). Only 7 percent of the respondents said that they were very interested in politics.

6.3.4. Method of analysis

In order to study simultaneously the relationships diagrammed in Figure 6-1, the *European Social Survey* data for the Flemish region in Belgium were investigated by the path analytic approach of performing sequential multiple regression equations. The beta weights from these multiple regressions are the path coefficients, which were computed for each path to an endogenous variable depicted in the model. As can be seen from Figure 6-1, the variables attention to polls, perceptions of collective opinion and personal opinions were endogenous variables in the model, of which the variance was considered to be explained partly by other variables in the model. For example, variance in personal opinions is theorized to result from variance in collective perceptions, political interest, news media exposure and external sources that are not in the model. The variables political interest and frequency of news media exposure, on the other hand, were exogenous variables in the model, as their variance was assumed to be caused by variables not in the model. The correlation between these two variables indicates that no variable was identified as a cause of the other variable. Any correlation between these variables may actually be causal and/or may be due to common causes (e.g. background characteristics, such as age and education).

In a path analysis, three major types of influence can be distinguished: direct, indirect and total effects. A direct effect refers to the influence of one variable on another, and is represented by a single path in the model (e.g. from news media exposure on personal opinion). An indirect effect tests the influence of one variable on another through one or more intervening variables, and is represented by a sequence of single paths (e.g. from news media exposure on personal opinion through perceptions of collective opinion). Different specific indirect effects, which each work through a single intervening variable sum up to the total indirect effect. Finally, a total effect consists of the sum of the direct

and indirect effects from one variable on another (Holbert & Stephenson, 2003, pp. 556-557).

The direct, (specific and total) indirect, and total effects depicted in Figure 6-1 were tested by path analyses, which were conducted separately for exposure to television news and newspapers, as well as for the three issues under consideration (Flemish independence, immigration policy, social services). This resulted in six different path models tested. Both the CALIS and linear regression procedure in Sas (Version 9.1) were used to obtain standardized path coefficients and the approximated t-tests. Several fit indices were used to test the overall model: the goodness-of-fit index (GFI), the adjusted goodness-of-fit index (AGFI), the normal fit index (NFI), the root mean square error of approximation (RMSEA), and the Chi-square statistic. The accepted standard for the GFI, AGFI, and NFI is generally above .90; below .05 for RMSEA to have a good fit; while the Chi-square test should not reach significance, as the null-hypothesis is a good model fit (Kline, 2005).

Although standard software packages do not give estimates for the specific indirect effects, it is essential that they are isolated to gain better insight into the different types of effects. They can be obtained by multiplying the direct paths of which the specific indirect effect is composed. To test the significance of the key specific indirect effect from news media exposure on personal opinions through perception of collective opinion, a simple mediation model was tested in which two significance tests were performed: the Aroian version of the Sobel test suggested by Baron and Kenny (1986) and the bootstrapping method suggested by Preacher and Hayes (2008). Both tests were used in a simple mediation model, as a first step to study whether news media exposure (main independent variable) indirectly affected personal opinions (main dependent variable) through perceptions of collective opinion (mediator). Appendix C presents a figure of this simple mediation model. Subsequently, this specific indirect effect was explored in the overall path model, which controlled for the different relationships modeled. However, for this path model it was not possible to test the significance of the specific indirect effect under control of the other variables and their interrelationships. Before the results of the path analysis are presented, correlations were explored at the bivariate level. For this, Pearson correlations between two variables were computed by the correlation procedure in Sas (Version 9.1)[41].

[41] In addition to the Pearson correlations, Prelis 2 was used to explore the bivariate correlations while taking into account the ordinal measurement level of some variables. Since the matrix contained variables with different measurement levels, a matrix of polychoric correlations was

6.4. (In)direct effects of exposure to news media on opinions

In this section, bivariate correlations between the variables of interest are discussed as a first test of the model expectations, after which the results of the path analysis are presented.

6.4.1. Bivariate correlations

In line with the hypothesized relationships of the model to be studied by path analysis, bivariate correlations were respectively investigated between news media exposure and opinion; between the perceptions of collective opinion and personal opinions; between poll attention and opinion; as well as between news media exposure, political interest and poll attention.

The first set of expectations in the a priori model about direct news media-effects on opinions was investigated at the bivariate level. Firstly, bivariate correlations between news media exposure and personal opinions were explored, both for watching television news and reading about politics in newspapers (in line with Path 1 in Figure 6-1). For watching television news, no significant correlations were found with the personal opinions on any of the issues (Flemish independence: r_{TV}=-.02; immigration policy: r_{TV}=-.04; social services: r_{TV}=-.05), while for reading about politics in newspapers, significant correlations were found with the personal opinions on Flemish independence (r_{NP}=-.06* p<.05) and immigration policy (r_{NP}=-.10** p<.01), but not on social services (r_{NP}=-.03). This indicates that a higher frequency of reading newspapers was related to a less favourable opinion on the independence of Flanders and a less favourable opinion towards a restrictive immigration policy. Secondly, bivariate correlations between news media exposure and perceptions of collective opinion were investigated (Path 2). For the three issues, significant correlations were found between watching television news and perceptions of collective opinion (Flemish independence: r_{TV}=-.07* p<.05; immigration policy: r_{TV}=-.06* p<.05; social services: r_{TV}=-.07* p<.05). This suggests that a higher frequency of watching television news was related to a less favourable perceived collective opinion on the Flemish independence, a less favourable perceived collective

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estimated. In such a matrix, polyserial correlations are estimated between an ordinal and continuous variable; Pearson product-moment correlations between continuous variables; and polychoric correlations between two variables with an ordinal measurement level, of which the first underlying metric scale is estimated by thresholds, depending on the distribution of that variable (Jöreskog & Sörbom, 1986). However, these results did not differ much from the Pearson correlations, and hence were not reported, nor used in the further analysis.

opinion towards a restrictive immigration policy, and a less favourable perceived collective opinion that social services make people lazy. In contrast, no significant correlations were observed between reading about politics in newspapers and perceptions of collective opinion (Flemish independence: r_{NP}=.02; immigration policy: r_{NP}=.03; social services: r_{NP}=.01). Thus, whereas reading about politics in newspapers was significantly related with personal opinions for two issues, watching television news was significantly related with perceptions of collective opinion for the three issues.

Investigating the indirect effect of news media exposure on personal opinions through perceptions of collective opinion implied a third expected path in the model from perceptions of collective opinion on personal opinions (Path 3). Significant ($p<.001$) bivariate correlations were observed between the perceptions of collective opinion and personal opinions for the three issues under consideration. This means that both levels of opinion were indeed related to each other, though the strength of these correlations was not so high, as the correlation coefficients ranged between .13 for the immigration policy, .19 for social services, and .39 for the independence of Flanders. The positive sign of all these correlation coefficients indicates a positive association between perceptions of collective opinion and personal opinions. In other words, it was found that the higher the perception of collective support for an issue, the more personal support for that issue.

Besides news media-effects on opinions, effects from attention to polls on opinions were considered at the bivariate level (Path 4). However, contrary to the a priori expectation, attention to opinion polls was for none of the issues significantly correlated with the personal opinions (for Flemish independence r=-.03; immigration policy r=-.02; social services r=.04), nor with the perceptions of collective opinion (for Flemish independence r=-.04; immigration policy r=.00; social services r=.02). Thus, while the frequency of news media exposure was in some cases significantly related to personal opinions and perceptions of collective opinion, attention to polls was not.

Additionally, since the path analysis aims to study simultaneously the interrelationships among frequency of news media exposure, political interest and poll attention, correlations between them were studied at the bivariate level. First, the a priori assumed positive correlation between news media exposure and political interest (Path 5) was observed at the bivariate level. This correlation with political interest was slightly larger for reading about politics in newspapers (r_{NP}=.33*** $p<.001$) than for watching television news (r_{NP}=.28*** $p<.001$). Thus, in line with general expectations, it was found that respondents

who spent more time on watching television news, and especially those who read more about politics in newspapers showed a significantly higher degree of political interest than respondents who spent less or no time on following the news. Second, as could be expected, a significant positive bivariate correlation was found between the frequency of news media exposure and attention to opinion polls (Path 6). More specifically, this correlation with poll attention was slightly larger for reading about politics in newspapers (r_{NP}=.22*** p<.001) than for watching television news (r_{NP}=.13*** p<.001). This indicates that those who watched more television news and especially those who read more about politics in newspapers noticed significantly more often opinion polls. This significant positive relationship was found for attention to polls about both electoral and general topics. And third, also the expected positive correlation between political interest and poll attention was found (Path 7; r=.25*** p<.001), which means that those who were more politically interested, noticed significantly more often opinion polls in the news.

Finally, because the path model controls for possible effects from political interest on opinions and perceptions, bivariate correlations between these variables were also explored before the path analysis was conducted. It was found that political interest was significantly correlated with the personal opinions (Path 8) on immigration policy (r=-.18*** p<.001) and social services (r=-.07** p<.01), but not with the opinions on Flemish independence (r=-.04). In contrast, for none of the issues, significant correlations were observed between political interest and the perceptions of collective opinion (Path 9; for Flemish independence r=-.02; immigration policy r=.03; social services r=.01). Most of the bivariate correlations were in line with general expectations, though they were not always very strong. The question is whether these correlations were also observed in a path model that controls for the other variables and interrelations. The results of this path analysis is reported in the next section.

6.4.2. Path analysis

Whereas in the previous section bivariate correlations were investigated between the variables of interest, the present section discusses the results of the path analysis. More specifically, the direct and indirect effects from exposure to news media on opinions, the relationship between perceptions of collective opinion and personal opinions, as well as the interrelations between news media exposure, political interest and poll attention were simultaneously studied by a path analysis using the Flemish ESS-data of 2009. This path analysis, which was structured by the a priori model depicted in Figure 6-1 was

conducted separately for exposure to television news and newspapers, as well as for the three issues under consideration (Flemish independence, immigration policy, social services). Accordingly, this resulted in six different models tested. The findings are summarized in Table 6-2, which presents the standardized path coefficients for the direct paths, as well as the fit indices for the overall model tests. Additionally, more detailed information about the decomposition of the effects in direct, (total and specific) indirect and total effects are presented in Table 6-3 for watching television news and Table 6-4 for reading about politics in newspapers by the three issues under study.

First of all, the overall model fit indices for the two news-media channels and three issues under consideration are discussed. The path models tested were over-identified with one degree of freedom (14 estimated parameters; 15 functions). As can be seen from Table 6-2, the Goodness-of-fit index (GFI), Adjusted goodness-of-fit index (AGFI) and Bentler & Bonett's normal fit index (NFI) ranged for all models tested between .98 and 1, which indicate overall good model fits (Kline, 2005). Furthermore, the root mean square error of approximation (RMSEA) was never higher than .05, and the p-values of the Chi-square test of good model fit never reached significance (at the 5 percentage significance level). Accordingly, the path models fitted the data fairly well for the two news media channels and three issues tested. However, it should be noted that the models had only one degree of freedom, and hence were rather saturated.

In addition to the overall model fit, an important assumption of path analysis to be verified is the multivariate normality. This multivariate normality was tested by Mardia's multivariate kurtosis measure, of which the value needs to be smaller than 1.96 to indicate a non-significant kurtosis. As can be seen from Table 6-2, the Mardia's multivariate kurtosis values supported the assumption of multivariate normality for the three issues under study. Furthermore, no problems of multicollinearity between the independent variables were expected, since the highest bivariate correlation observed was .33 between political interest and reading about politics in newspapers. However, these rather low correlations could also have contributed to the rather low R-square values reported in Table 6-2. As can be seen from this table, the independent variables accounted for about 15 percent of the variability in personal opinion on Flemish independence, which was only 5 percent for the issue of immigration policy and 4 percent for the issue of social services.

Table 6-2: Standardized path coefficients for watching television news (TV) and reading about politics in newspapers (NP), by issue

		Independence of Flanders				Immigration policy				Social services			
Direct Path		β_{TV}		β_{NP}		β_{TV}		β_{NP}		β_{TV}		β_{NP}	
1	News media exposure → Personal opinion	0.026		-0.058	†	0.012		-0.048		-0.025		-0.012	
2	News media exposure → Perception of collective opinion	-0.066	*	0.032		-0.055	†	0.046		-0.084	**	0.013	
3	Perception of collective opinion → Personal opinion	0.392	***	0.391	***	0.134	***	0.135	***	0.189	***	0.191	***
4	Poll attention → Perception of collective opinion	-0.032		-0.040		0.007		-0.003		0.022		0.015	
5	Covariance Political interest <> News media exposure	0.264	***	0.326	***	0.275	***	0.327	***	0.261	***	0.320	***
6	News media exposure → Poll attention	0.062	†	0.161	***	0.065	*	0.156	***	0.056	†	0.156	***
7	Political interest → Poll attention	0.204	***	0.168	***	0.224	***	0.190	***	0.215	***	0.179	***
8	Political interest → Personal opinion	-0.039		-0.013		-0.169	***	-0.150	***	-0.060	†	-0.063	†
9	Political interest → Perception of collective opinion	0.002		-0.024		-0.017		-0.045		0.030		0.005	
n		981		981		996		996		982		982	
R^2 Personal opinion		0.154		0.156		0.047		0.049		0.041		0.041	
R^2 Perception of collective opinion		0.006		0.003		0.004		0.003		0.007		0.001	
R^2 Poll attention		0.052		0.072		0.062		0.080		0.056		0.075	
Mardia's Multivariate Kurtosis		-0.451		0.532		-1.393		-0.519		-1.006		-0.082	
Model Fit Statistics													
Goodness-of-fit index (GFI)		1		1		0.999		0.999		0.999		0.999	
Adjusted goodness-of-fit index (AGFI)		1		0.999		0.998		0.995		0.980		0.979	
Root mean square error of approximation (RMSEA)		0		0		0		0		0.048		0.049	
Normal fit index of Bentler & Bonett (NFI)		1		0.999		0.998		0.997		0.981		0.985	
Chi^2 value (df=1)		293.71		0.10		193.92		0.78		176.77		3.39	
p		.982		.745		.528		.376		.070		.065	

Note: † p <.10; * p <.05; ** p <.01; *** p <.001

The first set of expectations studied in the path model was whether news media exposure affected the personal opinions directly, and/or indirectly by influencing the perceptions of collective opinion. Regarding the direct effect of news media exposure on personal opinions (Path 1), only the path from reading about politics in newspapers to the personal opinion about Flemish independence reached borderline-significance (at the 10 percentage significance level). Although most of the direct paths from exposure to news media on personal opinions were non-significant, it should be noted that for the issues of Flemish independence and immigration policy, a different direction of the path coefficients was found between watching television news and reading about politics in newspapers. Indeed, Table 6-2 shows that for both issues the path coefficients for the effect of television news on personal opinion was positive, while the path coefficient for the effect of reading about politics in newspapers on personal opinion was negative. This means that watching television news was related to a more favourable opinion on the Flemish independence and a more favourable opinion towards a restrictive immigration policy, while reading about politics in newspapers was related to a less favourable opinion on the Flemish independence and a less favourable opinion towards a restrictive immigration policy.

Before the indirect effect from news media exposure on personal opinions through perceptions of collective opinion is discussed, first the direct effect from news media exposure on perception of collective opinion (Path 3) was explored. It was found that the path from watching television news on the perceptions of collective opinion was significant for the issues of Flemish independence and social services (and borderline-significant for the issue of immigration policy), whereas reading about politics in newspapers showed no significant path coefficients for the collective perceptions. Again, the direction of the path coefficients observed was different for watching television news and reading about politics in newspapers. But whereas the previously reported direct path from television news to personal opinions was mostly positive, this was negative for the perceptions of collective opinion. And while the direct path from newspapers to personal opinions was negative, this was positive for the perceptions of collective opinion. Thus, although not all paths from news media exposure to opinions showed significant results, differences in the direction of the path coefficients indicated that there might be differences in the effects from watching television news and reading about politics in newspapers on the personal opinions and perceptions of

collective opinion. A possible explanation for these differences because of age and education is explored further in Subsection 6.4.3.

As an additional implication of the indirect media effect studied, it was explored whether perceptions of collective opinion affected personal opinions (Path 3). As can be seen from Table 6-2, all models tested indeed showed a significant ($p<.001$) direct path from perceptions of collective opinion to personal opinions. In line with the previously reported bivariate correlations between these opinions and perceptions, the relationship observed was in the positive direction. Thus, it was observed that the more favourable a perception of collective opinion about an issue, the more favourable the personal opinion on this issue. The path coefficients showed somewhat stronger relationships between perceptions of collective opinion and personal opinions for the issue of Flemish independence ($\beta_{TV}=\beta_{NP}=.39^{***}$ $p<.001$), than for the issues of social services ($\beta_{TV}=\beta_{NP}=.19^{***}$ $p<.001$) and immigration policy ($\beta_{TV}=\beta_{NP}=.135^{***}$ $p<.001$).

In order to study whether news media exposure affected the personal opinions indirectly, through perceptions of collective opinion, first a simple mediation model was tested, which included only this specific indirect effect, in addition to the direct effect from news media exposure to personal opinions (cf. Appendix C for a figure of this model). In this model, the frequency of news media exposure (separately tested for television news and newspapers) was the independent variable, personal opinion (separately tested for the three issues) was the dependent variable and perception of collective opinion (on the three issues) the mediator. The direction and size of the direct path coefficients observed did not differ much from the ones reported in Table 6-2[42]. To test the significance of the specific indirect effect in the simple mediation model from news media exposure on personal opinion through

[42] Similar to the previously reported findings of bivariate correlations (cf. Table 6-2, the simple mediation model showed a significant direct effect of news media exposure (IV; independent variable) on personal opinions (DP; dependent variable) only for newspapers and two issues (Flemish independence: $\beta_{NP}=-.063^{*}$ $p<.05$; immigration policy: $\beta_{NP}=.101^{***}$ $p<.001$; social services: $\beta_{NP}=-.034$), but not for television news (Flemish independence: $\beta_{TV}=.014$; immigration policy: $\beta_{TV}=-.030$; social services: $\beta_{TV}=-.404$). In contrast, significant direct effects of news media exposure (IV) on perceptions of collective opinion (M; Mediator) were found for television news (Flemish independence: $\beta_{TV}=-.067^{*}$ $p<.05$; immigration policy: $\beta_{TV}=-.060^{\dagger}$ $p<.10$; social services: $\beta_{TV}=-.074^{**}$ $p<.01$), but not for newspapers (Flemish independence: $\beta_{NP}=.015$; immigration policy: $\beta_{NP}=.030$; social services: $\beta_{NP}=.053$). Finally, significant positive relationships were observed between perceptions of collective opinion and personal opinions (Flemish independence: $\beta_{TV}=\beta_{NP}=.395^{***}$ $p<.001$; immigration policy: $\beta_{TV}=\beta_{NP}=.135^{***}$ $p<.001$; social services: $\beta_{TV}=\beta_{NP}=.190^{***}$ $p<.001$).

perception of collective opinion, two tests were performed: the Aroian version of the Sobel test suggested by Baron and Kenny (1986) and the bootstrapping method suggested by Preacher and Hayes (2008). The Sobel-test and bootstrapping method showed a significant indirect effect from watching television news on personal opinions through perceptions of collective opinion for the three issues in the simple mediation model: for Flemish independence (Sobel-test statistic=-2.09; p=.037*; bootstrapping result b=-.039; SE=.018; 95%CL between -.075 and -.004*), immigration policy (Sobel-test statistic=-1.71; p=.087†; bootstrapping result b=-.008; SE=.005; 95%CL between -.018 and -.0001*), and social services (Sobel-test statistic=-2.15; p=.031*; bootstrapping result b=-.018; SE=.008; 95%CL between -.034 and -.003*). However, these test statistics did not show a significant indirect effect from reading about politics in newspapers on personal opinions through perceptions of collective opinion for any of the issues (Flemish independence: Sobel-test statistic=.486; p=.627; bootstrapping result b=.004; SE=.019; 95%CL between -.033 and .042), immigration policy (Sobel-test statistic=.994; p=.320; bootstrapping result b=.002; SE=.005; 95%CL between -.007 and .012), social services (Sobel-test statistic=.474; p=.636; bootstrapping result b=-.001; SE=.008; 95%CL between -.018 and .015). Thus, whereas the indirect effect from watching television news on personal opinions through perceptions of collective opinions was significant, it was not significant for reading about politics in newspapers.

In a second step, this specific indirect effect from news media exposure on personal opinions through perceptions of collective opinion was explored in the path analysis, which included all variables and interrelations of the model depicted in Figure 6-1. Thus, in the path model, the specific indirect effect is studied under control of the other relationships modeled. The path coefficient for this specific indirect effect was obtained by multiplying the direct path coefficients of the related paths. Results for this specific indirect effect are presented in Table 6-3 (for watching television news) and Table 6-4 (for reading about politics in newspapers). From these tables, it can be learned that the specific indirect effect from watching television news and reading about politics newspapers on personal opinions through collective perceptions were very small (for independence of Flanders β_{TV}=-.026; β_{NP}=.013; for immigration policy β_{TV}=-.007; β_{NP}=.006; for social services β_{TV}=-.002; β_{NP}=-.003).

In line with the argumentation about this indirect media-effect on opinions, effects from poll attention on personal opinions through perceptions of collective opinion were explored. This includes a direct path from poll attention on perceptions of collective opinion (Path 4). However, contrary to the expectations, this direct path did not show significant results (cf. Table 6-2). Furthermore, Table 6-3 and Table 6-4 show that the indirect effect from poll attention on personal opinion through collective perception was for the three issues very small (for independence of Flanders β_{TV}=-.012; β_{NP}=-.016; for immigration policy β_{TV}=.001; β_{NP}=-.0004; for social services β_{TV}=.004; β_{NP}=.003).

Additionally, the a priori expected interrelations among news media exposure, political interest and poll attention were simultaneously investigated for the three issues in the path analysis. In line with the expectations and the results of the bivariate correlations, a significant ($p<.001$) covariance was found between news media exposure and political interest (Path 5), which was slightly stronger for reading about politics in newspapers (COV_{NP} about .33) than watching television news (COV_{TV} about .26). Furthermore, it was observed that the coefficient for the path from reading about politics in newspapers to poll attention was significant ($p<.001$) and positive (Path 6; β_{NP} about .16), while the coefficient for the path from watching television news on poll attention was mostly borderline-significant ($p<.10$) and positive (β_{TV} about .06). Finally, the path from political interest on poll attention was significant and positive (Path 7). It was slightly larger for the models with television news (β_{TV} ranged from .20 to .22), than those with newspapers (β_{NP} ranged from .17 to .19).

Regarding the relationships from political interest opinions and perceptions, no significant paths were observed for personal opinions (Path 8), but significant paths were found for perceptions of collective opinion (Path 9) about immigration policy (and borderline-significant for social services).

Table 6-3: Direct, indirect and total effects on personal opinion, perception of collective opinion and poll attention for watching television news and three issues

	Independence of Flanders			Immigration policy			Social services		
Effect	Direct effect	Indirect effect	Total effect	Direct effect	Indirect effect	Total effect	Direct effect	Indirect effect	Total effect
On personal opinion									
of perception of collective opinion	0.3917	0.0000	0.3917	0.1338	0.0000	0.1338	0.1891	0.0000	0.1892
of political interest	-0.0387	-0.0019	-0.0406	-0.1692	-0.0020	-0.1712	-0.0601	0.0065	-0.0536
through perception of collective opinion		*0.0006*			-0.0022			0.0056	
through poll attention and perception		*-0.0025*			*0.0002*			*0.0009*	
of watching television news	0.0260	-0.0267	-0.0007	0.0115	-0.0073	0.0043	-0.0246	-0.0156	-0.0402
through perception of collective opinion		*-0.0259*			*-0.0073*			*-0.0158*	
through poll attention and perception		*-0.0008*			*0.0001*			*0.0002*	
of poll attention *through perception of collective opinion*		-0.0124			0.0010			0.0041	
On perception of collective opinion									
of political interest	0.0016	-0.0065	-0.0049	-0.0168	0.0017	-0.0151	0.0296	0.0047	0.0343
of watching television news	-0.0662	-0.0020	-0.0682	-0.0549	0.0005	-0.0544	-0.0836	0.0012	-0.0824
of attention to polls	-0.0317	0.0000	-0.0317	0.0075	0.0000	0.0075	0.0216	0.0000	0.0216
On attention to polls									
of political interest	0.2044	0.0000	0.2045	0.2237	0.0000	0.2237	0.2149	0.0000	0.2149
of watching television news	0.0619	0.0000	0.0619	0.0655	0.0000	0.0655	0.0559	0.0000	0.0559

Note: The column of indirect effects contains the total indirect effects, while the italic results refer to the specific indirect effects

Table 6-4: Direct, indirect and total effects on personal opinion, perception of collective opinion and poll attention for reading about politics in newspapers and three issues

	Independence of Flanders			Immigration policy			Social services		
Effect	Direct effect	Indirect effect	Total effect	Direct effect	Indirect effect	Total effect	Direct effect	Indirect effect	Total effect
On personal opinion									
of perception of collective opinion	0.3914	0.0000	0.3914	0.1351	0.0000	0.1352	0.1910	0.0000	0.1912
of political interest	-0.0131	-0.0122	-0.0253	-0.1503	-0.0061	-0.1564	-0.0663	0.0015	-0.0611
through perception of collective opinion		*-0.0095*			-0.0060			0.0021	
through poll attention and perception		*-0.0027*			*-0.0001*			*0.0007*	
of reading newspapers	-0.0576	0.0099	-0.0477	-0.0478	0.0062	-0.0416	-0.0012	0.0029	-0.0096
through perception of collective opinion		*0.0125*			*0.0063*			*-0.0026*	
through poll attention and perception		*-0.0026*			*-0.0001*			*0.0005*	
of poll attention *through perception of collective opinion*		-0.0159			-0.0004			0.0029	
On perception of collective opinion									
of political interest	-0.0243	-0.0068	-0.0312	-0.0446	-0.0006	-0.0451	0.0111	0.0027	0.0078
of reading newspapers	0.0319	-0.0065	0.0254	0.0465	-0.0005	0.0460	-0.0137	0.0024	0.0153
of attention to polls	-0.0405	0.0000	-0.0405	-0.0029	0.0000	-0.0029	0.0191	0.0000	0.0151
On attention to polls									
of political interest	0.1682	0.0000	0.1682	0.1905	0.0000	0.1905	0.2000	0.0000	0.1794
of reading newspapers	0.1615	0.0000	0.1615	0.1563	0.0000	0.1563	0.1479	0.0000	0.1566

Note: The column of indirect effects contains the total indirect effects, while the italic results refer to the specific indirect effects

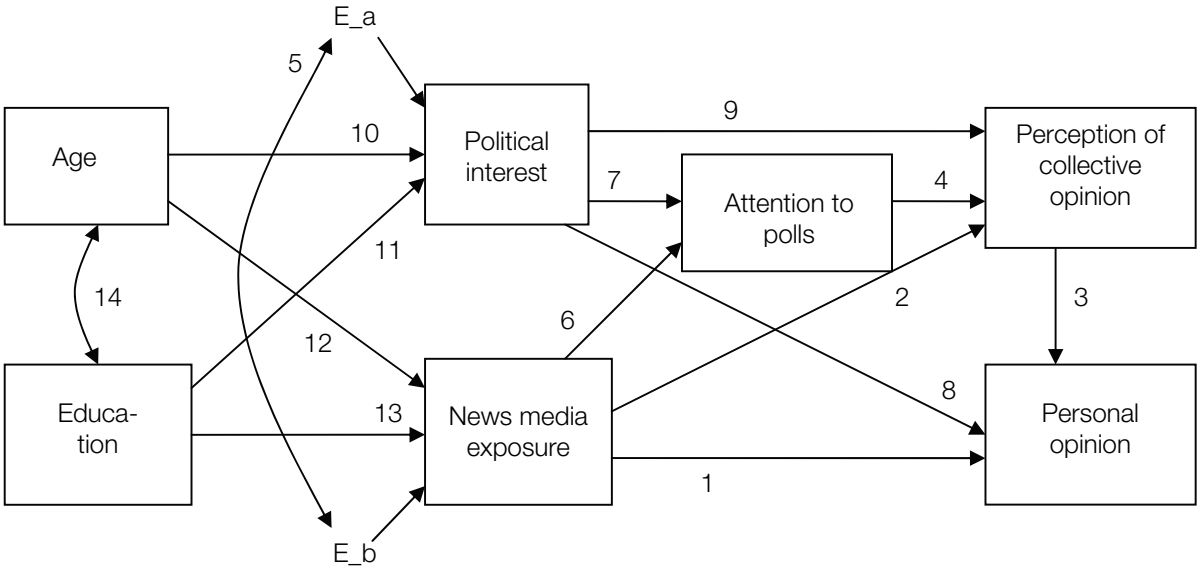
6.4.3. Exploration of extended path analysis with age and education

Although not all of the paths from news media exposure on personal opinions and perceptions of collective opinion showed significant coefficients, they often showed a different direction for watching television news and reading about politics in newspapers. A possible explanation for these different findings might be that there were differences in background characteristics, such as age and education between people who frequently watch television news and those who frequently read about politics in newspapers. To explore this possible explanation, firstly, bivariate correlations between these background characteristics and exposure to both news media channels were studied. Age was a continuous variable expressed in years (M=47.10; SD=19.09) and education was also a continuous variable measured in the number of completed education years (M=12.09; SD=3.28). It was observed that the bivariate correlation between age and watching television news was .29 (*** p<.001), which was larger than between age and reading about politics newspapers, which was only .08 (** p<.01). The correlation between education and watching television news, on the other hand, was not significant at the 5 percentage alpha level (r=.03), while it was significant for reading about politics in newspapers (r=.17*** p<.001). These bivariate correlations which indicate that especially age was positively related to watching television news and that education was positively related to reading about politics in newspapers may indeed suggest an explanation for the different relationships observed for the exposure to the different news media channels on the one hand and personal opinions and perceptions of collective opinion on the other hand.

To explore this possible explanation further, the path model was extended to additionally control for the background characteristics age and education. This extended path model is shown in Figure 6-2. The main reason was to explore whether age and education would explain the different relationships of watching television news and reading about politics in newspapers on the one hand, and personal opinions and perceptions of collective opinion on the other hand. Therefore, age and education were included at the left side of the model, as possible explanatory variables for news media exposure and political interest (Paths 10-13). A consequence of the inclusion of these variables was that the initially exogenous variables political interest and frequency of news media exposure became endogenous in the extended model. Accordingly, the initial arrow between them had to be replaced by an arrow

between the error-terms of these variables (Path 5 between E_a and E_b respectively). In this way, their mutual relationship was studied, because their causal direction was not made explicit in the model (Welkenhuysen-Gybels & Loosveldt, 2002, pp. 219-220). Additionally, between the background characteristics age and education, which were included as exogenous variables in the model, a covariance was expected (Path 14). Before these variables were included in the models, they were mean-centered (by subtracting the mean from each observation for age and education respectively, so that their new means were zero).

Figure 6-2: Exploration of extended path analytic model with controls for age and education



Similar to the original path analysis (cf. Figure 6-1), the extended path analysis with the additional inclusion of age and education (cf. Figure 6-2) was conducted for the three issues and two news media channels under consideration. Results are presented in Appendix C. The inclusion of age and gender into the path model, as explaining variables for the frequency of news media exposure and political interest increased the degrees of freedom in the model from one to seven. The overall model fit indices GFI, AGFI and NFI ranged between .94 and .99, which was slightly lower for the extended path models than for the original path models, though they still indicate good model fits. The RMSEA ranged between .027 and .06, and hence was sometimes slightly larger than .05, and the Chi-square test values were significant ($p<.001$) for two issues, which indicated less good model fits than the original path model (Kline, 2005). The R-square values of explained variance on personal opinions did not

change much whether or not age and education were included in the models (about 15% for Flemish independence, 5% for immigration policy and 4% for social services). In line with general expectations, the paths among age, education, frequency of news media exposure and political interest (Paths 10-14), as depicted in Figure 6-2, showed significant results. Indeed, the paths from age to political interest (Path 10; β ranged between .09 and .10) and from education to political interest (Path 11; β ranged between .31 and .33), as well as the covariance between age and education (Path 14; β was for all models -.34) were all significant and in the expected direction. In line with the bivariate correlations, it was observed that the standard path coefficient from age to frequency of watching television news was somewhat stronger (Path 12; β_{TV}=.36) than for reading about politics in newspapers (β_{NP}=.17). In contrast, it was found that the standard path coefficient from education to frequency of watching television news was somewhat weaker (Path 13; β_{TV} ranged between .13 and .15) than for reading about politics in newspapers (β_{NP} ranged between .22 and .23). All the other standard path coefficients, as reported in the previous section, did not show many differences if age and education were included as explaining variables for news media exposure and political interest. Indeed, almost identical results were observed for the path analysis extended with the background variables age and education (cf. Appendix C), compared with the original path analysis (cf. Table 6-2). This indicates that the findings reported for the three issues and two news media channels under consideration still hold, under control of age and education. Put differently, the partial effects from news media exposure on opinions (personal opinions and perceptions of collective opinion; Paths 1 & 2), as well as those from political interest on opinions (Paths 8 & 9) remained the same whether or not the basic background characteristics age and education were included as additional variables.

This extension of the path analysis was primarily performed in order to explore a possible explanation for differences in the findings reported between watching television news and reading about politics in newspapers. Therefore, age and education were modeled as possible explanations for news media exposure and political interest. However, an avenue for further research would be to build further upon this exploration and to take additionally into account relationships between background characteristics on the one hand, and poll attention and personal opinions and perceptions of collective opinion on the other hand. The

inclusion of these relationships with age and education implies the formulation of hypotheses grounded in theory about the additional included arrows in the path model.

6.5. Discussion and conclusion about effects from general news media on opinions

The present chapter empirically investigated the impact of general news media exposure (main independent variable) on individual opinions (main dependent variable) by a path analysis of survey data from the academically-driven *European Social Survey* (2009), which has a high methodological quality and was representative for the general Flemish public, by applying post-stratification weights. For the purpose of the study, it was possible to additionally include questions at the end of the Dutch-speaking questionnaire of the ESS (Round 4) for the Flemish region in Belgium. The use of path analysis allowed to study simultaneously the direct and indirect effects of news media exposure on opinions, the relationship between perceptions of collective opinion and personal opinions, as well as the interrelationships between news media exposure, political interest and attention to opinion polls. The a priori model tested by this path analysis was mainly based on the hypothesis that exposure to news media could indirectly affect personal opinions through perceptions of collective opinion (Mutz, 1998; Mutz & Soss, 1997; Tyler & Cook, 1984). Put differently, it was tested whether perceptions of collective opinion mediated effects from news media exposure on personal opinions. In order to draw conclusions from the results about the relationships between the variables of interest beyond the particularity of one topic, the path analyses were conducted for opinions on three different general issues, namely the Flemish independence, immigration policy and social services.

First of all, regarding the direct effects from exposure to news media on perceptions of collective opinion and personal opinions, it was found that reading about politics in newspapers was significantly correlated at the bivariate level with personal opinions for two issues, whereas watching television news was significantly related with perceptions of collective opinion for the three issues studied. In the path analysis, which controlled for the other relationships in the model, the direct path from reading about politics in newspapers to personal opinions about Flemish independence reached borderline-significance (at the 10 percentage significance level), which showed however no significant results for the collective

perceptions. In contrast, the direct path from watching television news to the personal opinions was not significant, while it was significant for the perceptions of collective opinion on the issues of Flemish independence and social services (and borderline-significant for the issue of immigration policy). The observation that different results were found for the paths between news media exposure to perceptions of collective opinion and personal opinions indicates that distinguishing between them is important when studying news-media effects. Between the personal opinions and perceptions of collective, a significant positive relationship was found at the bivariate level. Moreover, the direct path from perceptions on collective opinion to personal opinions was significant and positive in the different models tested by path analysis for three issues and two news media channels. Thus, it was found that the higher the perceptions of public support about an issue, the higher the personal support for that issue.

Furthermore, the findings might suggest that reading about politics in newspapers primarily affected personal opinions (personally for or against an issue), while watching television news mainly affected the perceptions of collective opinion (perceiving other people to be for or against an issue). Although not all the path coefficients from news media exposure on the opinions and perceptions showed significant results, it should be noted that their direction was different for television news and newspapers. Indeed, whereas the direct path from watching television news to personal opinions was mostly positive, this was negative for the perceptions of collective opinion. And while the direct path from reading about politics in newspapers to personal opinions was negative, this was positive for the perceptions of collective opinion. As a possible explanation for these differences in the direction of the findings for watching television news and reading about politics in newspapers, an extended path model was explored with the additional inclusion of the background characteristics age and education as explanations for political interest and news media exposure. The reported findings did not change much under control of these background variables, though the paths from age and education to the frequency of news media exposure were significant. More specifically, age was somewhat more strongly related with watching television news than reading about politics in newspapers, while education was somewhat less strongly related with watching television news than reading newspapers. Thus, the significance of these relationships indicate that age and education were indeed related to political interest and news media exposure, but they did not change the path coefficients observed in the initial

path model. Another possible explanation might be that the news media content from television news and newspapers was different. To study this, a content analysis of both news media channels would be needed to have information about differences in the direction of the findings observed.

Regarding the specific indirect effect from news media exposure on personal opinions through perceptions of collective opinion, first a simple mediation model was used, which included this specific indirect effect, in addition to the direct news media effect on personal opinions. Subsequently, the overall path model was analyzed, which additionally contained all relationships modeled. In the simple mediation model, it was observed that the specific indirect effect from news media exposure on personal opinions through perceptions of collective opinion was significant for watching television news, but not for reading about politics in newspapers. This difference was found because watching television news (independent variable) was significantly related with perceptions of collective opinion (mediator), but not with personal opinions (dependent variable), whereas reading about politics in newspapers (independent variable) was not significantly related with personal opinions (dependent variable), but was significantly related with perceptions of collective opinion (mediator). However, in the overall path model, this specific indirect effect from news media exposure on personal opinions was very small. Likewise, the indirect effect from poll attention on personal opinions through perceptions of collective opinion for the three issues was also very small.

Finally, the other a priori expected relationships in the model between frequency of news media exposure, political interest and poll attention were supported by the data. More specifically, the level of political interest and the frequency of news media exposure were positively correlated, and the direct paths from news media and political interest on poll attention were significant and positive, as could be expected.

The present study has some limitations that need to be mentioned. First of all, due to the low percentages of variance explained by the independent variables in the model and several insignificant paths, it could be suggested to remove paths from the model (e.g. based on modification indices). This would increase the degrees of freedom in the original model, which was almost saturated with one degree of freedom. However, the main aim of the path

analysis was to test the a priori model based on theoretical considerations, and primarily those of Mutz's theory on impersonal media influence (1998). Therefore, it was not opted to modify the model by merely empirical findings of insignificance.

Furthermore, although the causal relationship assumed was from perceptions of collective opinion on personal opinions, it might also be that personal opinions influenced the collective perceptions, or that they are mutually correlated. However, within the study of poll effects on personal opinions, it seemed reasonable to assume this causal direction from perceptions of collective opinion on personal opinions, based on the impersonal influence hypothesis of Mutz (1998). Indeed, if opinion polls are reported in the media to give an indication of collective opinion, it may be expected that they would primarily influence the collective perceptions, rather than directly affect the personal opinions. However, if opinion polls are for a longer period used by the news media to show a particular opinion in the public, it may be suggested that the perceptions people have from the opinions of other people might eventually be influential on their own opinions. But, the cross-sectional survey data used in the present study cannot demonstrate this causal direction of the relationship, as a path analysis can, strictly speaking, only demonstrate associations between variables.

Lastly, the use of a self-report for news media exposure may be biased, due to a possibly inaccurate estimation of the actual time spent on watching television news or reading about politics in newspapers. The same holds for the self-report about general poll attention, which might not necessarily mean that people actually paid attention to specific opinion polls in the news. Indeed, though poll attention was included in the models tested in addition to exposure to news media (Slater, 2004; Chaffee and Schleuder, 1986), effects observed can be due to general news media content, visibility of issues in the news or the tone with which these issues are presented (Scheufele & Tewksbury, 2007; McCombs & Shaw, 1972; McCombs & Reynolds, 2002; Iyengar & Kinder, 1987; Kinder & Sanders, 1990). The present analysis of survey data did not allow to disentangle general news media effects from effects due to specific poll publications. It should be noted that the path models tested did not include information about the polls published in the news media. Indeed, the main aim of this chapter was to investigate effects from general news media exposure on opinions. Moreover, before and during the conduct of the ESS, no major opinion polls about the topics investigated were published, which could be taken into consideration in the model. These

topics were mainly selected because of their consistency with the experiment, which is subsequently reported but which was however conducted previously in time. Including the poll results in the model would enable to interpret the relationships in terms of correctness of the perceptions of collective opinion, and hence in terms of the difference between these perceptions and published poll results. The poll results would then serve as an indication of 'real' collective opinion, to which the perception of collective opinion can be compared. Though, the question would remain what this real collective or public opinion is and whether polls can actually grasp this.

The present chapter was a first step in the empirical poll effects-study on individual opinions, because opinion polls are most frequently disseminated by news media (Traugott, 1992). Accordingly, the analysis of survey data provided insight into the general relationships between news media exposure, perceptions of collective opinion and personal opinions. In order to have control over the actual exposure to specific poll information, the next chapter presents a controlled experiment, in which poll information was provided to a randomly selected group of people. And in order to test the a priori model with more specific indicators of poll exposure and attention than mere news media exposure, Chapter 8 presents a natural field-experiment of which the data are used to test the path model in an adjusted form.

Chapter 7.
Experimental Analysis of Effects from Exposure to Specific Poll Information on Opinions

In addition to the previous chapter, in which data on general news media exposure from the *European Social Survey* was analyzed, the present chapter delves further into the effects of exposure to specific poll information on personal opinions and perceptions of collective opinion. As the literature review in Chapter 3 has shown (cf. Subsection 3.2), the news media dissemination of opinion information and the published presentation of the opinions of others in the form of poll results may potentially influence people's perceptions of collective opinion, as well as people's individual opinions (see de Boer & Brennecke, 2003; Lang & Lang, 1984; Gunther et al., 2001; Scheufele & Tewksbury, 2007; Mutz, 1998). Furthermore, the media may contribute to a particular definition and creation of 'public opinion' by frequently using opinion poll results in the news (Herbst, 1998; Suhonen, 2001; cf. Subsection 4.1). Whereas effects from exposure to general news media have been studied so far, effects from exposure to specific opinion polls published in the news media are further investigated by a controlled experiment (present Chapter 7), as well as a natural experiment (next Chapter 8).

Whether, and to what degree, the publication of poll results might influence the opinions of the public has been a much-debated subject and has been investigated by diverse research designs (see de Boer & Brennecke, 2003). According to Hardmeier's meta-analysis (2008, p. 506), research designs looking at poll effects are mostly experimental (69%); followed by studies based on survey data (22%) or aggregate data (9%). While many studies of poll-effects have looked at the voting context (e.g. Blais et al., 2006; Ceci & Kain, 1982; Faas et al., 2008; Fleitas, 1971; Navazio, 1977, McAllister & Studlar, 1991), the main aim of this

second part of the dissertation is to investigate whether poll publications affect opinions on non-electoral, though politically-relevant issues. In line with the previous chapter which studied opinions on Flemish independence, immigration policy and social services by path analysis of the *European Social Survey* data, the present chapter focuses on an experimental test of poll effects on opinions about five general issues: the independence of the Flemish region in Belgium, immigration policy, retirement income, purchasing power and health-care solidarity.

In particular, the following question about a main effect from exposure to specific poll information on opinions is empirically studied: does poll information influence personal opinions on political issues and/or do poll results change how people perceive the opinions of others? Thus, effects from poll information are investigated on both personal opinions and perceptions of collective opinion. If such poll effects from exposure to specific poll information on opinions would be observed, three additional questions are addressed. A first additional question is whether there were individual differences in these poll effects? In particular, the individual characteristics opinion strength, political interest and perceived poll influence are explored as possible moderators or interaction effects that may lead to differential poll effects (Baron & Kenny, 1986). A second additional question if a main poll effect would be observed is whether this effect was observed only shortly after being exposed to poll information, or also at a later moment (and in particular three months later)? And finally, a third additional question is whether any observed poll effect could be replicated?

To address these research questions about a main effect of poll information on personal opinions and perceptions of collective opinion, as well as individual differences in such a poll effect, its duration and replication, an experimental study was conducted in which poll information was integrated into a survey of a randomly selected group of respondents. With such a design, it is not only possible to test the overall impact of poll results on opinions, but also to explore differential effects depending on individual characteristics. Furthermore, by using two panel waves, questions about the duration and replication of poll effects on opinion could be investigated. The empirical results of this experiment were published in the

International Journal of Public Opinion Research (Sonck & Loosveldt, in press)[43]. The next section presents the theoretical insights upon which the research questions were based.

7.1. Opinion change by polls

To address the central research question about poll effects on opinion, two dependent variables were distinguished: personal opinions and perceptions of collective opinion. Similar to the previous chapter, Mutz's distinction (1998) between these personal opinions and perceptions of collective opinion is used. In line with the theory on 'impersonal influence', Tyler and Cook (1984) observed in their experiments that media-information can affect perceptions of the frequency and severity of social problems and that media can affect these societal-level judgments without influencing the personal-level judgments. Furthermore, Mutz and Soss (1997) observed in a quasi-experiment that media primarily affected the perceptions of collective opinion, rather than directly the personal opinions. As the apparently precise poll results give people an idea of the opinion distribution in the general public for a specific issue (Andersen, 2000; Lang & Lang, 1984; Gunther et al., 2001), it may indeed be expected that they would primarily affect people's perceptions of collective opinion.

In this section, first evidence from previous research about poll effects is discussed, after which underlying mechanisms of these poll effects are considered as possible explanations why opinion change due to opinion polls can occur. Whereas the previous chapter focused on effects from exposure to general news media, the present chapter focuses on effects from exposure to specific poll information.

7.1.1. Evidence for poll-effects

Previous studies about the possible impact of specific poll information on opinion mostly relied on experimental research designs and focused on the electoral context (Hardmeier, 2008, p. 506). On the one hand, natural experiments have been conducted about poll

[43] An earlier version of this article was an international conference paper: Sonck, N. & Loosveldt, G. (2008). *Opinion Polls and Perception of Collective Opinion*. Presented at 2nd ECPR Graduate Conference; Session "Democracy and Public Opinion: on its Dynamics, Determinants and Consequences", 25-27 August, Barcelona.

effects on voting, in which experimental and control groups were formed by external circumstances. Especially the electoral system of the US lends itself to study the effects of published voting information by a natural experiment, since voting booths in the Western states remain open while election results from the Eastern states are already broadcasted (see McAllister & Studlar, 1991). On the other hand, controlled experiments have been used to discover poll impact on opinions. In these studies, an experimental group typically receives poll information during the experiment, while a control group does not receive this information (Donsbach, 1984, pp. 394-395). Most of the early studies on poll effects consisted of small experimental designs.

For example, in an early experiment of poll effects, Navazio (1977) compared electoral opinions between an experimental group who received a survey by mail that contained recent opinion poll results and a control group who received this survey without the poll results. Overall, no significant differences in opinion were observed between the groups. However, the inclusion of the poll information within the survey seemed to be a positive referent for some occupational groups (i.e. white-collar workers) and a negative referent for other occupational groups (i.e. blue-collar workers) to respond to the survey (Navazio, 1977, pp. 220-223). Ceci and Kain (1982), on the other hand, observed significant differences in voting intentions of students before and after the experimental provision of poll information. It was found that especially the weakly decided and undecided respondents changed their opinion due to the poll results (Ceci & Kain, 1982, pp. 239-242). Whereas Ceci and Kain (1982) found a bandwagon effect, as opinions moved toward the majority opinion shown by poll information, Fleitas (1971), for example, observed an underdog effect, as opinions moved away from the majority opinion. Fleitas found this effect from poll information on political opinions in a minimal-information election in which voters possessed little information (Fleitas, 1971, p. 438).

Apart from experimental research on poll effects, panel data have been used to study effects from poll information on opinions, and in particular on electoral opinions, such as voting intentions and electoral perceptions (e.g. Skalaban, 1988; Blais et al., 2006; Faas et al., 2008). Such studies assume that poll information may affect voters' perceptions and expectations regarding the future electoral outcome, which may ultimately affect participation in the elections (e.g. mobilizing and demobilizing effects) or the votes itself. Whereas the

strategic voting mechanism suggests that poll information can affect people's perceptions of the electoral race, the bandwagon mechanism suggests that poll information may primarily influence voters' preferences and evaluations of political parties or candidates (Blais et al., 2006; Simon, 1954; Hardmeier, 2008). Especially the bandwagon mechanism has also been investigated, though to a lesser extent, in the context of opinion formation on non-electoral or general issues. In terms of Mutz's impersonal media influence (1998), these poll effects can be defined as opinion movement towards ('bandwagon') or away from ('underdog') the perceived majority opinion (Mutz, 1998; Marsh, 1984).

For example, Marsh (1984) conducted an experiment on opinion change for the issue of abortion, for which a crystallized collective opinion could be assumed. It was found that while exposure to experimentally varying information about the current state of mass opinion produced no effect, information about the trend of opinions did affect the personal opinions on abortion (Marsh, 1984, pp. 54-56; 51; 70). Similarly, Nadeau, Cloutier and Guay (1993) performed an experiment of opinion change for two general issues with different levels of opinion crystallization among the general public: abortion (high level of opinion crystallization) and the constitutional future of Quebec (lower level of opinion crystallization). The scholars conducted an experiment in which randomly selected groups were exposed to varying poll results and a control group, which was not exposed to these poll results. A significant poll effect or opinion change toward the majority opinion was found, regardless of the direction of the poll information provided and the level of opinion crystallization for the issues (Nadeau et al., 1993, pp. 204-206; 211).

In these studies, the key independent variable is published poll information and the dependent variables are opinions, whether or not related to a voting context. Similarly, the central research question of the present experiment is whether poll results published by the news media can affect personal opinions and perceptions of collective opinion. The next section discusses possible explanatory mechanisms for such effects from exposure to specific poll information on opinions.

7.1.2. Explanatory mechanisms for poll-effects

If poll effects on opinions would be observed in the experimental study, different underlying psychological processes may account for these effects (see Section 3.2.3). The underlying

processes that have been mentioned in the literature can be broadly divided into explanations that focus on cognitive reactions based on high information processing, such as cognitively responding to poll results or being strategically influenced by them, while other explanations refer to affective reactions based on low information processing, such as contagion or bandwagon effects, gratification effects and cue taking from poll publications (Hardmeier, 2008; Shiraev & Sobel, 2006). These two types of possible explanations correspond to the two routes of persuasion proposed by the Elaboration Likelihood Model (ELM), developed by Petty and Cacioppo (1986; Petty & Wegener, 1999): the central and peripheral route. The route that people use depends on the degree of cognitive elaboration. The central route refers to careful consideration of the information presented, while the peripheral route refers to the use of a simple cue in the persuasion context without thoughtful consideration of the communication (Petty & Cacioppo, 1986, p. 125; Petty & Wegener, 1999, p. 42).

For example, within the central route, the cognitive response mechanism stipulates that people may process media-published poll information in a rational way. By reflecting on the representations of mass opinion shown by poll results, people could be 'self-persuaded' by them, on the basis of which eventually a personal opinion may be formed or changed (Mutz, 1998; Hardmeier, 2008). But polls may also be influential in a more affective way. Indeed, within the peripheral route it is assumed that people can use only those cues from a message context that are easy to process and do not require much mental effort. People could use informational cues from a message, for example, by perceiving a social consensus as the 'correctness' of an opinion, and hence by assuming that many people holding a similar opinion cannot be wrong. Cues can also be used in a normative way. For example, if people do not want to be the only one in their group holding a particular opinion, they may conform to the opinion of a reference group (Hardmeier, 2008, pp. 508-510). However, there is an important difference between conformity to small groups, which may be great, and impersonal influence from mass opinions, such as poll results, of which the reference public is mostly much larger, undifferentiated, anonymous and psychologically distant (Mutz, 1997, pp. 197-205).

Studies in social cognition suggest that people do not use sophisticated information-processing strategies, but rather rely on intuitive heuristics, or mental 'shortcuts' (Fiske & Taylor, 1984; Nisbett & Ross, 1980; Tversky & Kahneman, 1973; Ajzen, 1977). Several

scholars found that 'base-rate' information, which are general statements about the number of people or things involved in a given social phenomenon, such as statistics and polls, are often neglected in favour of more individuating information or personality descriptions (Dashmann, 2000; Ginosar & Trope, 1979; Bar-Hillel, 1980; Zillmann, Gibson, Sundar & Perkins, 1996; Zillmann, 1999). For example, Tversky and Kahneman (1979) found that people ignored the population frequency of membership in a category (i.e. the base-rate information) in judging a person's membership to a category, and instead used personality descriptions that were provided. This observation was called 'the base-rate fallacy'. It is argued that base-rate information or statistical data are 'remote, pallid and abstract', while exemplars are 'vivid, salient and concrete' (Nisbett, Borgida, Crandall & Reed, 1976). However, Ginosar and Trope (1979) observed that although people prefer to use personality descriptions, they nevertheless checked the base-rate information and judged its usefulness through a sampling rule (by translating relative frequencies to probabilities). Bar-Hillel (1980) suggest that people judge the relevance of base-rate information, and will use it if it has a high degree of specificity. Furthermore, Ajzen (1977), as well as Tversky and Kahneman (1973; 1979) suggested that people use heuristics, such as the 'representativeness heuristic', which refers to the use of individuating information if it is representative of a probability category or the 'causality heuristic', which refers to the use of base-rate information if it is causally linked to the event related. More recently, Daschmann (2000) experimentally varied pre-election poll results and voter statements ('exemplars') in media-messages and found that whereas the poll results could influence the perceptions of collective opinion, the voter statements could additionally affect the personal opinions, while neither of them could affect the voting intentions (Daschmann, 2000). Because of such potential differences in the occurrence of effects, the present study takes into consideration effects from exposure to specific poll information on personal opinions and perceptions of collective opinion.

7.1.3. Differential poll-effects

Apart from studying main poll effects on personal opinions and perceptions of collective opinion, individual differences are investigated because poll effects might occur within particular groups of the public, due to processes of selective exposure to and selective retention of media information, the role of group norms, or the influence of opinion leaders (Traugott, 1992; de Boer & Brennecke, 2003, pp. 37-38; 42; Donsbach, 1984, pp. 399-400). In particular, the present study considers three moderators or interacting variables that might

be related to a differential impact of poll information on opinions: opinion strength, political interest and perceived poll influence. Whereas the previous chapter also included political interest in the path model to investigate direct and indirect effects from general news media exposure on personal opinions through perceptions of collective opinion, by simultaneously controlling for relationships between political interest and opinions, the present chapter additionally takes into account opinion strength. It can be considered as a specific characteristic of opinions, and hence as an interaction variable affecting the relationship between poll exposure and opinions. Finally, whereas the previous chapter included general poll attention in the path model to refine the general news media exposure variable, the present chapter focuses on perceived poll influence, because this is closely related to the aim of the study, namely testing poll influence. This variable is also included in the analysis as an interaction variable with poll effects. The three interaction variables or moderators are respectively discussed.

Firstly, opinion strength may be an important source of individual differences in effects from specific poll information on opinions. Opinion strength has been a social-psychological concept increasingly used by social and political scientists to explain influence from methodology on survey responses (Zaller, 1992; Sciarini & Kriesi, 2003; Schuman & Presser, 1981; Krosnick & Abelson, 1992), as well as influence from media information on opinions (Iyengar and Kinder 1987; Nelson & Oxley, 1999; Lecheler, de Vreese & Slothuus, 2009). Regarding effects from poll publications on opinion, it has been suggested that the effects of poll publication on opinion are probably larger for newly emerged issues on which people do not yet have stable and crystallized opinions and about which people know little about the general mood (Lang & Lang, 1984, pp. 133-136; Bartels, 1993). Furthermore, in Hardmeier's (2008) meta-analysis of poll-effect studies, it was found that those with weak or no predisposition towards a general issue showed greater poll effects than those with strong opinions on that issue. Indeed, various empirical studies have observed that opinion strength is related to opinion stability and resistance to change (Sciarini & Kriesi, 2003; Schuman & Presser, 1981). Therefore, a differential impact of poll information due to different levels of opinion strength may be expected, both for personal opinions and perceptions of collective opinion.

Although the concept of opinion strength can be broadly defined as those features that distinguish weak from strong opinions, it has been conceived differently by focusing on different aspects. For example, while Schuman and Presser (1981) conceive opinion strength as intensity, centrality or personal involvement, Krosnick and Abelson (1992) define it by five dimensions: extremity, intensity, certainty, personal importance and knowledge (cf. Subsection 3.3.1). Although it may seem reasonable to assume that these different dimensions are highly correlated and reflections of a single underlying dimension (attitude strength), various research has demonstrated that the aspects can be conceptually and empirically separable (Krosnick & Abelson, 1992, pp. 179-183; Miller & Peterson, 2004; Bizer, Visser, Berent & Krosnick, 2004). The present study focuses on one aspect of opinion strength, namely the issue importance in a voting context, because this relates to a specific context in which people estimate the strength of their opinions on issues.

Secondly, apart from opinion strength, varying degrees of political interest might produce differences in the susceptibility to effects from specific poll information on opinions. Political interest can be considered as 'the most basic expression of citizens' relationship to their government', which is correlated with background characteristics such as age and education, as well as with communication variables, such as talking about politics and following politics in the media (Jeffres, Atkin & Neuendorf, 2002). Indeed, political interest is one item in Zaller's (1992) broader concept of political awareness, besides political information, political participation, media exposure and education. Research has shown that these components can have unique effects on political information processing. For example, Iyengar and Kinder (1987) found that political interest, partisanship and activism were the most important factors in influencing media-effects due to agenda-setting. Furthermore, Krosnick and Brannon (1993) observed that stronger media-effects were found for high level of political knowledge, but for low levels of exposure and political interest.

In general, it may be expected that highly politically interested persons would be more interested in poll news than those with the lowest levels of political interest. Indeed, Tsfati and Cappella (2005), for example, found that political interest was significantly and positively related with exposure to mainstream news, namely the higher the interest in politics, the higher the exposure to news. However, Zaller (1992) contends that the most politically aware people are able to evaluate poll messages according to their personal partisanship, and will

therefore be less likely to use each new piece of information as a consideration in forming their opinion. Especially the moderately politically aware persons would be less able to evaluate these messages on the basis of political consistency, and would therefore be more likely to change their opinions than those with the highest levels of political interest or those who are not interested at all (Zaller, 1992; cf. Sections 3.1.5 & 3.3.1). Accordingly, it may be expected that people with moderate levels of political interest will be more likely to be affected in their opinions by poll information than people with the highest or lowest levels of political interest.

Although it may be argued that opinion strength and political interest are interrelated, their effects will be tested in additional models. For example, Sciarini & Kriesi (2003) observed an additional effect of opinion strength, apart from political interest. Similarly, Peterson (2004) argues that while political sophistication can influence opinion strength, measures of political interest and opinion strength are distinct and can vary across issues and events. Therefore, they were considered separately in the analysis (though relationships between them will be empirically verified).

Thirdly, in addition to opinion strength and political interest, the perception of poll influence on one's own opinion is considered as a possible source of differential impact. More specifically, it may be assumed that people who perceive more influence from polls on their own opinions would be more susceptible to poll effects, and hence would be more likely to be actually affected by poll information. However, it should be noted that this perception of poll influence may be biased because of the 'third-person effect', which suggests that people perceive the greatest impact of persuasive media-communication, such as political ads or poll reports, 'on "them" – the third persons', rather than on themselves (Davison, 1983, p. 3; Perloff, 1996; cf. Subsection 3.4.3). Regardless of such misperception of influence, Gunther (1998) for example, found that people could infer their perceptions of collective opinion from media content because they perceived media to be influencing opinions by reflecting or shaping collective opinion (Gunther, 1998; Gunther et al., 2001). In the present study, it is explored whether different levels of perceived poll influence on one's own opinion are related to different poll effects on personal opinions and perceptions of collective opinion.

7.2. Expectations for the experimental analysis

The overall research question of what effects exposure to specific poll results can have on personal opinions and perceptions of collective opinion was addressed by performing an experimental study, in which poll information about different issues was provided to an experimental group of survey respondents. With this research design, it is aimed to discover a main effect of poll information on opinion. To this end, a distinction was made between the occurrence of poll effects on personal opinions and perceptions of collective opinion (Mutz, 1998). Expectations were based on the idea of impersonal media influence, for which previous research found that media primarily affected the perceptions of collective opinion and that they could affect them without affecting the personal opinions (Mutz & Soss, 1997). Since especially poll results give a fairly clear indication of collective opinion, poll effects might therefore primarily occur on the perceptions of collective opinion, rather than on personal opinions. Accordingly, it was expected that for the personal opinions, the null hypothesis of no significant poll effect could not be rejected (Hypothesis 1, $H1_0$), whereas for the perceptions of collective opinion, it was expected that this null hypothesis could be falsified, and hence that it is probable that a poll effect occurred ($H1_A$). In order to test these expectations, the personal opinions and perceptions of collective opinion were compared between an experimental and control group. An important prerequisite is that these personal opinions and perceptions of collective opinion were not significantly different between the experimental and control groups in the pretest condition (i.e. before the experimental group is exposed to the experimental stimulus).

If poll effects would be observed on the personal opinions or perceptions of collective opinion, three additional questions are important to address. A first additional question is whether there were individual differences in the impact of specific poll information on the opinions? The reason to study this is that poll effects might occur within particular groups of the public (Traugott, 1992). Three expectations regarding a differential impact of poll results are summarized in the following hypotheses: effects of poll results on opinions will be different for different levels of (Hypothesis 2; H2):

> H2a. opinion strength: people with weak opinions will be more likely to be affected by poll information than people with strong opinions

H2b. political interest: people with moderate levels of political interest will be more likely to be affected by poll information than people with the highest or lowest levels of political interest

H2c. perceived poll influence on one's own opinion: people who perceive a higher degree of poll influence on their own opinion will be more likely to be affected by poll information than people who perceive little or no poll influence on their own opinion

These individual characteristics opinion strength, political interest and perceived poll influence are included in the analysis as possible moderators or interacting variables that may lead to differential poll effects (Baron & Kenny, 1986).

A second additional question to be addressed is about the duration of poll effects observed on opinions. This question is explored without formulating a hypothesis about it (Research question; RQ1): Are poll effects observed only shortly after being exposed to poll information, or also at a later moment, such as three months later? In an early study on the persistence of media-effects, Hovland and Weiss (1951) reported that effects from media-content on opinion could still be found four weeks after the communication. More recently, Tewksbury, Jones, Peske, Raymond, and Vig (2000) not only observed a significant effect of news frames on audience perceptions of a public policy issue shortly after exposure, but also three weeks after the initial experiment, though it became weaker. In contrast, Druckman and Nelson (2003) found that the significance of the immediate framing effects disappeared after ten days, even in the absence of any news media information about the issue studied. Likewise, de Vreese (2004) reported that news effects were not persistent, as they disappeared over time, and also Mutz and Reeves (2005) had to conclude that there were no significant differences by the original experimental condition in a second experiment about television effects on political trust. But in contrast, Lecheler and de Vreese (2009) observed framing effects at three delayed time points, namely after one day, one week and two weeks, though they were muted over-time. However, not much has been known about the persistence of *poll effects* on personal opinions and perceptions of collective opinion. A general a priori expectation might be that effects of an experimental provision of poll information during a survey would be short-term, rather than long-term. Any effects from the provision of poll effects during an experimental survey may indeed more closely resemble accessibility effects, such as agenda-setting and priming effects, than applicability effects, suggested by the

framing theory. The former is related to the saliency of considerations which will depend on the continuously changing media-attention to issues, while the latter refers to acceptance and implementation of the connection between concepts that a particular frame suggested (Scheufele & Tewksbury, 2007; de Boer & Brennecke, 2009).

Finally, a third additional question to be addressed if poll effects would be observed, concerns the replication of the manipulation of opinions. Similar to the previous question, no specific hypothesis was formulated about this explorative research question (RQ2): Can the occurrence of poll effects be replicated by the same method at another occasion? Put differently, it is tested whether similar results were found about the main poll effect on opinions if the experimental study was replicated over time with different issues. Whereas the question about the duration of poll effects can be studied by surveying the same respondents after a while (and in particular after three months), the question of replication can be addressed by using the same measurement procedure and instrument at another moment.

7.3. Research design

To address the research questions about poll effects on opinion, a pretest – post-test experiment was conducted during a first survey wave and replicated during a second wave, in which individuals were randomly assigned to experimental and control groups. This experimental research design resembles a split-ballot design about question wording effects (e.g. Schuman & Presser, 1981; Bishop et al., 1983; Bishop, 1987). In this section, the experimental design is described and the issue selection motivated, after which information about the sample and weighting is provided, as well as the issues of reliability and validity are considered. Subsequently, information is presented about the variables under study and the methods of analysis.

7.3.1. Experimental two-wave panel design

The experimental design consisted of two survey waves. In the first survey wave, the main effect of the provision of poll information on the personal opinions and perceptions of collective opinion was tested, as well as three possible differentiations in the poll effects, due to opinion strength, political interest and perceived poll influence. In the second survey wave,

the main experimental test was replicated to investigate simultaneously the duration of the poll effect and the replication of the manipulation of opinions by poll information.

Figure 7-1: Experimental research design

	WAVE 1: initial experiment			WAVE 2: replication of experiment and duration of poll effect			
Opinion measurements	Pretest opinions t_{11} on issues A		Post-test opinions t_{12} on issues A	Post-post-test opinions t_{23} on issues A	Pretest opinions t_{21} on issues B		Post-test opinions t_{22} on issues B
Groups; provision of poll information	Exp 1	Poll info about issues A	Exp 1	Exp 1	Exp 2	Poll info about issues B	Exp 2
	Contr 1	-	Contr 1	Contr 1	Contr 2	-	Contr 2

Note: Exp refers to experimental group, while Contr refers to control group. The first subscript of time (t) stands for the survey wave (1,2), whereas the second subscript of time stands for the pretest (1), post-test (2) or post-post-test (3). Opinions refer to both personal opinions and perceptions of collective opinion. Issues A refer to the issues selected for the first survey wave (the independence of Flanders, retirement income and immigration policy), while issues B refer to the issues selected for the second survey wave (purchasing power and health-care solidarity)

Figure 7-1 shows the experimental research design. In both waves, personal opinions and perceptions of collective opinion on several issues were surveyed as a pretest (Wave 1: opinions at time t_{11} on issues A; Wave 2: opinions at time t_{21} on issues B), after which the experimental group was exposed to information about poll results, while the control group was not exposed to this information. By providing poll information to the respondents of the experimental group and asking questions about it, it was certain that they were exposed to the stimulus during the survey (cf. Appendix D). At the end of the questionnaire, opinions about the same issues were surveyed again as a post-test (Wave 1: opinions at time t_{12} on issues A; Wave 2: opinions at time t_{22} on issues B). Since respondents had been asked their opinions before they were exposed to the poll information, it was possible to examine differences in opinions before and shortly after the poll information was provided. As the control group did not receive information on opinion polls during the survey, their opinions could be compared with those of the experimental group to assess the potential impact of the poll information provided, controlled for any opinion change that occurred independently from the stimulus experiment.

Additionally, a second post-test of personal opinions and perceptions of collective opinion was conducted on identical issues during the second survey wave to test the duration of any poll effects observed. In this way, opinions could be compared between the original experimental and control group (Exp 1 vs. Contr 1) at three different time points or survey moments: before any poll information was provided (pretest at time t_{11}); shortly after the poll information was provided (post-test at time t_{12}); as well as a longer period of time after the first survey wave (post-post-test at time t_{23}). Furthermore, to test the replication of poll effects, the same respondents were surveyed in the second wave, but on different topics. For this purpose, the respondents of the experimental group of the first wave (Exp 1) were randomly assigned, either to the group that received poll information about two other issues in the second wave (Exp 2), either to the group that did not receive this poll information in the second wave (Contr 2). Accordingly, the effect of the provision of poll information on the personal opinions and perceptions of collective opinion was repeatedly studied by a comparison between the experimental and control groups of the second survey wave (Exp 2 vs. Contr 2).

7.3.2. Issue selection

Although the questionnaires of both survey waves explored opinions about several issues, the experiment focused in the first survey wave on three topics in particular: the independence of Flanders, retirement income and immigration policy. To replicate the experiment, two additional issues were selected in the second survey wave: people's purchasing power and solidarity in the health-care system. The poll information provided to the experimental groups during both survey waves was selected based on the degree of news-media attention that issues received in the months preceding the experimental waves and the number of opinion polls conducted about these issues. Although no formal content analysis of news items was performed, indications of news media attention to the issues before and between the survey waves were monitored using the press database *Mediargus* (which contains the largest newspaper articles of the quality papers *De Standaard*, *De Morgen*, and *De Tijd*; as well as the popular papers *Het Laatste Nieuws*, *Het Nieuwsblad*, *Gazet Van Antwerpen*, and *Het Belang van Limburg*). In these newspapers, it was searched for articles that contained key words related to the issues considered in the experiment (such as 'Flemish independence'), before the first experimental wave as well as between the survey waves. Special attention was given to articles referring to opinion polls in headline or text. Based on the registration of

these articles, it was possible to have some indication of the media-attention given to the issues studied; though it should be noted that an in depth content analysis would be required to have full control over the media publications during the experiment. This should be kept in mind as a possible limitation of the experimental study. Appendix D contains the exact wordings of how the poll information was provided during the questionnaire.

Firstly, the issue of the independence of Flanders was chosen because in the months preceding the first survey wave, the Flemish news media frequently commissioned polls on it and widely disseminated these poll results through television and newspapers. During this period, Belgium faced a precarious political situation in which the difficulties of forming an (interim) government after the Federal elections of June 2007 raised questions about the possible independence of the northern region of Flanders. The finding that 12 percent of the Flemish population favoured the independence of Flanders[44] was provided to the experimental group during the first survey wave. This figure was the result of a poll jointly commissioned by the public broadcasting television channel *VRT* and the quality newspaper *De Standaard* in November 2007. This poll result followed, and contrasted with, various polls which had been claiming that more than 40 percent of Flemings favoured an independent Flanders[45]. However, the poll result of 12 percent was more in line with longitudinal academic research on the issue[46], and may therefore more closely represent the 'true' state of collective opinion in Flanders.

Secondly, it was focused on the retirement income, about which public opinion is politically relevant in order to develop and evaluate (governmental) systems of financing pensions. In contrast to the first issue, the retirement income was less topical at the time of the experiment and far fewer, although some, opinion polls were published about it in the months preceding the experiment. In contrast to the first issue, the news media did not commission

[44] Cf. *VRT-news* (public television news), 09/11/2007, 'Vlamingen staan achter staatshervorming (Flemings favour state reform)'.
[45] For example in a poll from *VTM-news* (commercial television journal), 24/08/2007; a poll from the *Canvas*-programme "Koppen", 04/09/2007; as well as polls from the newspaper *Het Laatste Nieuws,* 18/09/2007; 05/11/2007.
[46] For example, the Belgian Center for Sociological Research, Institute for Sociological and Political Research observed that 9 percent of the Flemish voters favoured an independent Flanders (Swyngedouw & Rink, 2008).

the published polls about retirement income. For example, in August and October 2007[47], various media reported the results of two polls commissioned by 'Swiss Life Belgium' (an insurance company) on attitudes towards (future) retirement. Their poll result which suggested that 30 percent of Belgians did not know whether their income in old age would be enough to pay extra health-care costs was used as a second experimental stimulus.

Thirdly, it was focused on opinions about immigration policy because no opinion polls about this issue were reported in the Flemish news media in the months preceding the experiment. Therefore, it was possible to examine the impact of new poll information on the respondents. The information provided to the respondents of the experimental group was based on data from the academically driven '*European Social Survey*' (Round 3, 2006), in which it was found that 43 percent of the Flemings agreed that Belgium should not allow any or only allow a few people from poorer countries outside Europe to live in the country.

From these issues, the independence of Flanders and the immigration policy were selected to survey again in an identical form, in the second survey wave to study the duration of the poll effect. While the issue of the independence of Flanders was very topical before the first survey wave, it received less news-media attention before and during the second survey wave. However at that time, there were still very frequently public discussions between the Belgian communities (between the Flemings and the Walloons) about a further stage in the state reform, and hence, more autonomy for the regions. The issue of the immigration policy, on the other hand, was selected to survey again, since it was neither very topical at the first survey wave, nor at the second wave. About these two issues, no additional poll information was provided to the respondents during the second survey wave.

In order to test the replication of the main poll effect, two other issues were selected to be studied, unrelated to those surveyed in the first wave, namely people's purchasing power and the solidarity in the health-care system. The selection criteria for these issues were similar to the first wave, namely based on the level of news-media attention and number of polls published in the months before the survey wave. Firstly, the issue of purchasing power was

[47] Cf. respectively *De Morgen*, 02/08/2007, 'Een op de drie Belgen ligt niet wakker van pensioen (One third of the Belgians does not lose any sleep over retirement)'; *Het Volk*, 30/10/2007, 'Driekwart Belgen bang om zorgbehoevend oud te worden (Three third of the Belgians fears losing their independence in old age)'.

selected because it received a lot of news-media attention before the data-collection of the second wave and was therefore considered very topical at that moment. Yet, not many opinion polls about that issue had been published, as the issue had arisen only recently in the public debate. The poll information provided to the experimental group during the second survey wave was from a union-sponsored poll (ABVV; General Belgian Trade) which showed that 47 percent of the Belgian employees felt that their purchasing power had decreased compared with the year before[48]. The second issue selected for the replicated experiment was the solidarity in the health-care system. This issue received less media-attention and hence, was less topical at the moment of the second survey wave. The poll result provided to the experimental group came from a poll sponsored by the largest National Health Service provider of Belgium (Christelijke Mutualiteit), in which it was found that 81 percent of the Flemish people agreed that healthy people have to contribute for sick people[49]. The poll information about these two issues were provided to the experimental group during the second survey wave (Exp 2).

In order to ensure a higher level of external validity for the experiment, in both survey waves other published poll results about unrelated topics were included in the questionnaire for the experimental group (about terrorism and work in the first survey wave; about trust in politicians in the second survey wave; cf. Appendix D). In this way, subjects in the experimental group did not have to pay attention to a single poll result provided, but were exposed to poll information about several issues. It may be assumed that this more closely resembles the information flow of the news media than an experimental stimulus which consisted of only one poll result. Furthermore, to ensure a similar survey length for both the experimental and control groups, the questionnaire of the latter contained additional questions about other topics that were unrelated to the issues on which the experiment focused (attitudes towards the environment and feelings of insecurity in the first survey wave; questions about living conditions in the second survey wave; cf. Appendix D).

[48] Cf. *De Tijd*, 23/04/2008, 'Helft werknemers heeft financiële problemen (Half of the employees has financial problems)'.
[49] Cf. *Gazet van Antwerpen*, 01/04/2008, 'Vlamingen niet solidair met werklozen (Flemings do not show solidarity with the unemployed)'.

7.3.3. Data collection and sample information

The experimental data were collected through an online access panel survey, which means that the survey was conducted online with a sample of previously recruited panel members. More specifically, the online access panel of *iVOX* was used (for more information about this panel cf. Subsection 4.2.6.4.a). Since the main concern of experimental research is not representativeness, but success of the random assignment, problems related to limited coverage and self-selection of online access panel surveys were considered as less important for the present experimental study. Indeed, an online access panel is an acceptable method of data collection if the aim is not to estimate population values (AAPOR Task Force, 2010). Though the limitations of this data-collection method, mentioned in Subsection 4.2.6.2 should be kept in mind. For example, although quite large samples were obtained (3673 interviews in the first survey wave and 2828 in the second survey wave), it has to be stressed that the findings are not representative of the general population. Mainly due to self-selection in some of the methods to recruit new online panel members, there might be biases between the online panel sample and the target population.

Based on an information database of the previously recruited panel members, a stratified sample was drawn of adult panel members aged between 18 and 74 years old, living in the Flemish region of Belgium. The sample was stratified according to gender, age and education, based on census information. Additionally, certain groups of respondents were over- or under-sampled according to previously achieved response rates within the stratified cells. The first survey wave was conducted between January 28 and February 29, 2008. After each week, a reminder was sent, and as an incentive the respondents could win gift vouchers from multimedia shops. The effective sample consisted of 2704 completed interviews for the experimental group (completion rate of 42.5%[50]) and 969 completed interviews for the control group (completion rate of 41.5%). The respondents of the first wave were invited by e-mail to participate again in a follow-up survey. The invitation e-mail referred to people's participation in the first survey wave and mentioned that the second survey would deal with similar, though less, questions about their opinions on various issues. This second survey wave was conducted between May 21 and June 15, 2008, which was about three

[50] 'Completion rates' for online access panels cannot be considered comparable to the response rates of traditional surveys (cf. Subsection 4.2.6.4.b). The reported completion rates were calculated according to AAPOR's standard definition of response rate RR1 (AAPOR, 2009).

months after the first wave. Two reminders were sent and the effective sample consisted of 2828 completed interviews. Within the group that received no poll information in the first wave, the completion rate in the second wave was 79 percent (n=765). Within the group that received poll information in the first wave, the completion rate in the second wave was 77 percent (n=2063). This group was randomly divided into an experimental group (n=1383), who received poll information about new topics in the second wave, and a control group (n=680), who did not receive this additional poll information.

7.3.4. Weighting

Because the data were collected by an online access panel survey, an indication is provided about the differences in sample composition between the first and second wave, compared with the general public. Table 7-1 shows the distributions of the basic background characteristics age, gender and education, for the samples of the first wave (W1) and the second wave (W2), as well as for the population of adult persons aged between 18 and 74 years old, living in the Flemish region of Belgium (Source: Labour Force Survey / LFS, 2005). As can be seen from Table 7-1, the youngest age group of 18-34 years old was significantly underrepresented in both survey waves, and the age group of 55-64 years old was significantly overrepresented, compared with the population. This could be expected from the online access panel, based on previous findings (cf. Subsection 4.2.6.4.e). Regarding the distribution of gender, it can be seen that women were even more underrepresented in the sample of the second wave compared with the population. Additionally, in the samples of both survey waves, people with at least a degree of higher education were significantly overrepresented and people with at the most a lower secondary degree were underrepresented, compared with the population. Although the samples of both waves significantly differed from the population, they did not significantly differ from each other with regard to age, gender and education.

Since the samples significantly differed from the population regarding the basic background characteristics age, gender and education, it could be recommended to weight the data. However, the aim of this experiment is to study the process of poll effects on opinions, rather than using the marginal opinion distributions to have an indication of passive mass opinion. Furthermore, weighting procedures based on basic background characteristics do not seem to adjust online access panel data in a way that they become comparable to a traditionally

collected representative survey (cf. Subsection 4.2.6.5). Moreover, because it concerns an experimental study, the random assignment process is the main concern. Based on a comparison between the experimental and control groups, weights can be applied to make the groups similar, rather than to compare them with the general population.

Table 7-1: Comparison of basic background characteristics (%) in samples of the first survey wave (W1) and second survey wave (W2) to the Flemish population between 18 and 74 years old

	Respondents W1 (n=3646)	Respondents W2 (n=2828)	Population (LFS, 2005)
Age	%	%	%
18-24	8.26	7.78	11.41
25-34	15.58	14.43	17.57
35-44	24.90	24.08	21.43
45-54	23.86	24.19	20.08
55-64	21.37	23.13	15.95
65-74	6.03	6.40	13.55
Sig. test sample W1 vs. population	Chi^2 (df=5)=178.08; p<.0001		
Sig. test sample W2 vs. population	Chi^2 (df=5)=153.06; p<.0001		
Sig. test between waves	Chi^2 (df=5)=4.94; p=.4230		
Gender			
Male	52.36	54.07	50.10
Female	47.64	45.93	49.90
Sig. test sample W1 vs. population	Chi^2 (df=1)=3.73; p=.0535†		
Sig. test sample W2 vs. population	Chi^2 (df=1)=8.93; p=.0028**		
Sig. test between waves	Chi^2 (df=1)=1.87; p=.1715		
Education			
Lower secondary	32.04	32.43	36.39
Higher secondary	37.52	36.39	37.37
Higher education	30.44	31.19	26.24
Sig. test sample W1 vs. population	Chi^2 (df=2)=21.44; p<.0001***		
Sig. test sample W2 vs. population	Chi^2 (df=2)=18.88; p<.0001***		
Sig. test between waves	Chi^2 (df=2)=0.49; p=.7832		

Note: † p<.10; *p<.05; **p<.01; ***p<.001

To evaluate the random assignment process in both survey waves, differences between the experimental and control groups were tested by performing Chi-square tests for categorical variables and two-sided t-tests for ordinal and (quasi-) continuous variables. Table 7-2 presents an overview of this comparison for the basic background characteristics age, gender and education. As can be seen from this table, the experimental and control groups of the initial experiment in the first survey wave significantly differed for age. These groups still differed for age when they were surveyed during the second wave. However, the

experimental and control groups for the replicated experiment, which were formed within the initial experimental group of the first wave, did not differ significantly from each other for age. The other background characteristics gender and education did not show significant differences between any of the experimental and control groups. Because the distribution of age significantly differed between the groups in both survey waves, weights were assigned to the experimental and control groups of both survey waves, based on univariate information about age for the target population (source: Labour Force Survey; LFS, 2005). More specifically, the age distribution of all experimental and control groups was weighted in order to make them similar to the age distribution of the population (shown in Table 7-1). This was not done to compare them with the population, but to compare them amongst each other.

Table 7-2: Comparison of basic background characteristics (%) between experimental and control groups of both survey waves

	Wave 1		Wave 2		Wave 2	
	Exp 1 (n=2683)	Contr 1 (n=963)	Exp 1 (n=2063)	Contr 1 (n=765)	Exp 2 (n=1383)	Contr 2 (n=680)
Age	%	%	%	%	%	%
18-24	8.50	7.58	7.90	7.45	7.30	9.12
25-34	16.77	12.25	15.61	11.24	15.26	16.32
35-44	25.31	23.78	24.29	23.53	24.08	24.71
45-54	22.40	27.93	23.07	27.19	22.99	23.24
55-64	21.06	22.22	22.88	23.79	24.01	20.59
65-74	5.96	6.23	6.25	6.80	6.36	6.03
Sig. test	Chi^2 (df=5)=20.30; p=.0011*		Chi^2 (df=5)=12.02; p=.0345*		Chi^2 (df=5)=4.73; p=.4502	
Gender						
Male	53.00	50.57	54.92	51.76	55.82	53.09
Female	47.00	49.43	45.08	48.24	44.18	46.91
Sig. test	Chi^2 (df=1)=1.68; p=.1954		Chi^2 (df=1)=2.24; p=.1347		Chi^2 (df=1)=1.37; p=.2410	
Education						
Lower secondary	31.38	33.85	31.99	33.59	32.83	30.29
Higher secondary	37.91	36.45	36.65	35.69	35.57	38.82
Higher education	30.71	29.70	31.36	30.72	31.60	30.88
Sig. test	Chi^2 (df=2)=1.99; p=.3699		Chi^2 (df=2)=0.66; p=.7199		Chi^2 (df=2)=2.30; p=.3164	

Note: *p<.05; The original experimental group (Exp 1) in the second survey wave includes the experimental and control groups of the second survey wave (Exp 2 & Contr 2)

As a further exploration, the variables opinion strength (for the different issues under consideration), political interest, perceived poll influence and news media use were compared

between the experimental and control groups in both survey waves. These variables did not significantly differ between any of the groups, whether unweighted or weighted for age, except for news media use which remained significantly different between the groups in the second survey wave. More specifically, the average time spent on reading about politics in newspapers was slightly larger in the experimental group of the second survey wave used for the replicated experiment (M_{exp2}=2.46; SD=1.20) compared with the control group of that survey wave (M_{contr2}=2.29; SD=1.02; t(df=2049)=3.24; p=.0012). The average time spent on watching television news was borderline-significantly different between these groups (at the 10 percentage alpha level). Again, the experimental group showed a slightly higher frequency of watching television news (M_{exp2}=3.21; SD=1.25) compared with the control group (M_{contr2}=3.10; SD=1.17; t(df=2051)=1.85; p=.0652). This difference between the groups should be remembered in the presentation of the results for the replicated experiment.

7.3.5. Internal and external validity

The validity of an experimental study can be broadly divided into external and internal validity. Regarding the external or so-called ecological validity, the question needs to be addressed whether the experiment was realistic enough (Loosveldt, 2006, pp. 166-167). Although attention of respondents to poll information was tested in an artificial setting, it was chosen to include more than one experimental stimulus to obtain a more realistic situation than when respondents have to focus on one clear information stimulus. For this reason, the respondents of the experimental group were provided with five different poll results in the first survey wave, while the experiment focused on three of them. Likewise, in the second survey wave, respondents were provided with three poll results, while the experiment focused on two of them. In this way, the attention of respondents to the poll information was divided over more than one poll result. Furthermore, it was opted to give respondents realistic information about the collective opinion, namely real poll results, rather than imaginary results. Although a limitation of this was that the poll results could not be experimentally manipulated within the experimental group, it contributed to the external validity of the experiment. Moreover, in order to disguise the purpose of the experiment for the respondents, a "buffer" of questions was interposed between the pretest and post-test opinion questions. In this way, it was minimized that respondents could become aware of the purpose of the experiment. Despite this, it should be noted that the respondents of the experimental group in the second survey wave had a greater chance of becoming aware of the purpose of the

experimental survey, since they received twice a similar survey design in which poll information was provided and their opinions were asked before and shortly after poll information was provided.

Additionally, regarding the internal or so-called causal validity, the question needs to be addressed whether the differences observed were due to the experimental stimulus or whether other explanations were responsible for the findings (Loosveldt, 2006, pp.167-169). Three particular aspects about this internal validity of the experiment can be mentioned: time lag, online data collection and random assignment. Firstly, because there was only a small time lag between the pretest and first post-test, it may be suggested that there was little chance for external events to affect the experimental results. However, between the first and second survey wave, there was a time lag of three months, in which external events could have affected the results obtained. Secondly, the online mode of data-collection could have affected the responses, such as 'satisficing effects', which refer to responses given without thoughtful consideration due to the absence of an interviewer (Heerwegh & Loosveldt, 2008; Holbrook et al., 2003). This absence of interviewers or experimental observers, on the other hand, is also positive as they could not have influenced the experiment. Finally, a general assumption is that the less significant differences between the experimental and control groups in background characteristics, the higher the internal validity of the experiment. The present study applied a random assignment procedure to select the groups among the online access panel, namely by a pre-stratified sample according to age, gender and education. However, the groups did significantly differ for age, and in the second survey wave also for the frequency of media use. The differences in age between the groups were taken into account by assigning weights based on census information to the respondents of both groups (cf. previous section).

7.3.6. Variables

In this subsection, the main variables under study are briefly considered. Additional information about the variables and questions asked can be found in Appendix D. It has to be noted that if percentages or means are mentioned, they have to be considered as indicative for the sample obtained, rather than being representative of the population. Moreover, descriptive information provided in this section does not take into account the experimental differences between the groups. First, the dependent variables personal

opinions and perceptions of collective opinion are considered, after which the three moderators opinion strength, political interest and perceived poll influence are presented.

7.3.6.1. Opinions: personal opinions and perceptions of collective opinion

Both the personal opinions and perceptions of collective opinion were measured at multiple time points. The personal opinion variable was measured by a five-point scale of personal agreement with the opinion questions asked (from 1=strongly agree, to 5=strongly disagree), and the variable about the perception of collective opinion was measured by a percentage scale (0-100%) on which people estimated the state of collective opinion. These personal opinions and perceptions of collective opinion were asked at the beginning and end of both survey waves, and concerned several politically-relevant issues (cf. Subsection 7.3.2 for issue selection). The pretest opinion scores obtained in the first wave (at time t_{11}) showed that on average most respondents did not agree, neither disagree with the question whether Flanders should be independent (M=2.77; SD=1.36) and they perceived that, on average, 45 percent of the other Flemish people favoured an independent Flanders (M=44.9; SD=19.5). Regarding the issue of retirement income, most of the respondents agreed that they did not know whether their income in old age would be enough to pay extra health-care costs (M=3.66; SD=1.02) and they perceived that, on average, 63 percent of the other Belgians did not know this either (M=63.07; SD=16.71). Finally, most respondents agreed that none or only some of the people from poorer countries outside Europe should be allowed to come and live in Belgium (M=3.64; SD=1.06) and they perceived that, on average, 52 percent of the other Flemings shared this opinion (M=52.1; SD=22.8). For the issues surveyed in the second wave, the pretest opinion scores (at time t_{21}) showed that most people agreed with the statement that their purchasing power had decreased compared with the previous year (M=4.24; SD=1.07). Similarly, they perceived a large majority of other Flemish people agreeing with this statement about a decreasing purchasing power (M=74.36; SD=17.39). Additionally, most respondents agreed with the statement about health-care solidarity that healthy people have to contribute for sick people (M=3.95; SD=1.06) and perceived that, on average, 59 percent of other Flemings shared this opinion (M=58.58; SD=19.35).

7.3.6.2. Opinion strength

Opinion strength was measured on a five-point scale in terms of issue importance in deciding one's electoral vote (from 1=very important, to 5=very unimportant; reverse coded: the higher

the scores, the higher the importance attributed to the issue). The importance attributed to the independence of Flanders was similar between both survey waves (M_{w1}=2.93; SD=1.38 vs. M_{w2}=2.90; SD=1.39; t_{paired}(df=2696)=0.57; p=.5719), and generally lower than the importance attributed to the immigration policy (M_{w1}=4.07; SD=.89 vs. M_{w2}=3.97; SD=.99; t_{paired}(df=2752)=4.92; p<.0001), which significantly decreased between the survey waves. Furthermore, the issue of retirement income, which was only surveyed in the first wave was on average considered as slightly more important than the two other issues of that wave mentioned (M_{w1}=4.34; SD=.73). Regarding the issues that were surveyed only in the second wave, the issue of the purchasing power was considered as slightly more important (M_{w2}=4.17; SD=.72) than the issue of solidarity in the health-care system (M_{w2}=4.13; SD=.84).

7.3.6.3. Political interest

The political interest variable was measured by a four-point scale on which people could indicate their degree of interest in politics in general (from 1=very interested, to 4=not al all interested; reverse coded: the higher the scores, the higher the interest in politics). This variable was surveyed in both waves in an identical way. It was found that the degree of political interest was significantly higher in the second survey wave, compared with the first wave (M_{w1}=2.6; SD=.83 vs. M_{w2}=2.7; SD=.79; t_{paired}(df=2800)=-6.68; p<.0001), though the inter-wave correlation was quite high (.78). This observation of a slightly higher political interest in the second survey wave compared with the first wave could be expected, because respondents of the first wave were informed by the invitation e-mail that the second survey wave would explore again their opinions on different politically-relevant issues. Therefore, the respondents of the first survey wave who were more politically interested could be more willing to participate again in the second survey wave. This might be an indication of selective non-response in the second survey wave. Furthermore, it was investigated whether the level of political interest in the online panel sample was higher than that of the general population (Duffy et al., 2005). To this end, the level of political interest in the sample of the first survey wave was compared to that of a face-to-face interviewed sample that was representative of the Flemish population between 18 and 74 years old, namely from the *European Social Survey* (ESS, 2006, Round 3). It was observed that people who are 'not at all' or 'hardly interested' in politics were underrepresented in the sample of the first survey wave (11% and 29% respectively) compared with the representative ESS-sample (22% and 27% respectively). In contrast, those people who are 'quite' and 'very interested' in politics were

overrepresented in the sample of the first survey wave (48% and 12% respectively) compared with the representative ESS-sample (42% and 9% respectively). These differences in political interest between the online panel sample and the representative face-to-face sample were statistically significant (Chi^2 (df=3)=155.60; p<.0001).

7.3.6.4. Perceived poll influence on one's own opinion

Perception of poll influence on one's own opinion was surveyed by an eleven-point scale (ranging from 0=no influence perceived at all; to 10=a lot of influence perceived). This variable was only measured in the first survey wave: on a scale from 0 to 10, the overall mean was 4.5 (SD=2.5), which indicates that, on average, not so much influence was perceived of polls on the own opinion.

7.3.7. Methods of analysis

In order to examine effects from exposure to specific poll information on opinion, it is tempting to calculate change scores as a difference between the opinion measures before and after the subjects were exposed to poll information, and subsequently search for relationships between the change scores and the variables that could cause these changes. However, various scholars have objected the use of change scores, mainly because of two reasons. Firstly, it is suggested that there is high unreliability in the difference term compared to the compound variables. Secondly, regression towards the mean effects can occur from pretest to post-test measurements (e.g. individuals with high pretest scores tend to move down in the post-test, while low pretest scores move up), which would show spurious relationships with independent variables (Allison, 1990; Bohrnstedt, 1969; Cronbach & Furby, 1970; Peter, Churchill & Brown, 1993). To avoid such problems, the 'regressor variable method' has been suggested in which the post-test variable is the dependent variable and the pretest variable is used as a control variable in regression analyses. Instead of trying to explain the change score itself, the regressor variable method analyzes what predicts change in the post-test variable, controlling for the pre-test variable. The focus of the study, however, is the same as in the change score approach, namely studying effects of other variables on change (Allison, 1990).

Therefore, the first set of hypotheses about a main effect of the provision of poll information on opinions (H1) was tested between the experimental and control groups by two-sided t-

tests of the mean differences in personal opinions and perceptions of collective opinion in the pretest and post-test conditions, rather than calculating change scores. Additionally, in order to address the second set of hypotheses about differential patterns of impact at the individual level (H2), multivariate regression analyses were conducted in which the primary dependent variables were the opinions in the post-test condition. To study potential change, the pretest opinions were included in the analyses as control variables (Allison, 1990; Cronbach & Furby, 1970). The main independent variables were three interaction effects with the experimental treatment. The variable that indicated this effect of the poll information provided to the experimental group was a dichotomous variable 'group' which specified whether the respondents were in the experimental or control group. The first effect included was between group and opinion strength (H2a). The second interaction tested was between group and political interest (H2b), which was post-hoc classified in three dummy-variables (high, moderate and low political interest). The third interaction effect included in the analysis was between group and perceived poll influence on one's own opinion (H2c).

To study these interaction effects, first a model was tested with only group (experimental or control group) and the pretest opinions as main independent variables, after which the three moderators (opinion strength, political interest and perceived poll influence) were included to explore their main effects on opinions. Subsequently, the interaction effects between group and the three moderators were added to the regression equation, as a product of the dichotomous group variable and each of the moderators (Baron & Kenny, 1986, pp. 1175-1176). Such a model tests whether the relation between group and opinion changes as a function of the moderators, or in other words tests the differential effect of the experimental stimulus on opinion as a function of the moderators (Baron & Kenny, 1986, p. 1174).

Finally, to study the duration of any poll effect observed (RQ1), opinions about identically-surveyed issues in both waves were compared between the experimental and control groups at three time points (t_{11}, t_{12}, t_{23}) by two-sided t-tests of the mean differences in personal opinions and perceptions of collective opinion. And in order to test the replication of these poll effects (RQ2), the same method of analysis was used in both experimental waves, in which the same respondents were involved but opinions on different issues were considered.

7.4. Experimental effects from poll information on opinions

In this section, the findings of the experimental two-wave panel study are presented. First, a main poll effect on opinions is investigated, after which individual differences in this poll effect, its duration and replication are successively addressed.

7.4.1. Main poll effect on opinions

In order to address the central question of whether exposure to the specific poll information integrated into the experimental questionnaire of the first survey wave affected the opinions of the respondents, a distinction was made between testing poll effects on personal opinions and perceptions of collective opinion. It was expected that primarily the perceptions of collective opinion would be affected by exposure to poll results, as polls give a fairly clear indication of the climate of opinion on a particular issue (H1). To study the main impact of the poll information integrated in the experimental questionnaire, opinions on three issues (independence of Flanders, retirement income, immigration policy) were surveyed before (pretest at t_{11}) and shortly after (post-test at t_{12}) the experimental group was exposed to poll results. Differences in opinion were tested between the experimental and control groups of the first survey wave by two-sided t-tests. The findings are summarized in Table 7-3.

As can be seen from Table 7-3, the means of the personal opinions and perceptions of collective opinion on all three issues did not differ significantly in the pretest condition (t_{11}). For example, the between-group differences in means for the independence of Flanders were -.04 (p=.401) for the personal opinions and -.87 (p=.175) for the perceptions of collective opinion. Similar results were found for the other two issues. The groups being comparable in their pretest opinions is a prerequisite for studying potential opinion change after being exposed to poll information. In this way, the pretest can be considered a 'zero-measurement' of the opinions.

Table 7-3: T-tests of mean differences in personal opinions and perceptions of collective opinion on three issues between the experimental and control groups of the first survey wave at t_{11}, t_{12} and t_{23}

	Personal opinion						Perception of collective opinion					
Issue	Pretest (t_{11})		Post-test (t_{12})		Post-post-test (t_{23})		Pretest (t_{11})		Post-test (t_{12})		Post-post-test (t_{23})	
Flemish independence												
Group	Mean	(SD)	Mean	(SD)	Mean	(SD)	Mean	(SD)	Mean	(SD)	Mean	(SD)
Control group	2.74	(1.35)	2.66	(1.40)	2.75	(1.38)	44.29	(19.64)	45.35	(20.46)	48.42	(18.10)
Experimental group	2.78	(1.37)	2.73	(1.41)	2.80	(1.37)	45.16	(19.43)	40.88	(20.37)	46.13	(18.82)
M diff (Ctr-Exp)	-.04		-.07		-.05		-.87		4.47		2.29	
t (df);	-.84 (3569);		-1.36 (3486);		-.90 (2730);		-1.19 (3644);		5.83 (3644);		2.9 (2826);	
p	.4010		.1746		.3700		.2351		<.0001***		.0038**	
Retirement Income												
Group	Mean	(SD)	Mean	(SD)	Mean	(SD)	Mean	(SD)	Mean	(SD)	Mean	(SD)
Control group	3.69	(.99)	3.68	(1.06)	-		63.16	(16.57)	62.10	(17.17)	-	
Experimental group	3.66	(1.03)	3.64	(1.07)	-		63.04	(16.76)	55.67	(19.18)	-	
M diff (Ctr-Exp)	.03		.03		-		.12		6.44		-	
t (df);	.73 (3584);		.84 (3523);				.19 (3644);		9.18 (3644);			
p	.4635		.4000		-		.8466		<.0001***		-	
Immigration Policy												
Group	Mean	(SD)	Mean	(SD)	Mean	(SD)	Mean	(SD)	Mean	(SD)	Mean	(SD)
Control group	3.66	(1.06)	3.17	(1.32)	3.10	(1.21)	52.08	(23.24)	51.63	(22.53)	53.17	(20.86)
Experimental group	3.64	(1.06)	3.17	(1.25)	3.14	(1.24)	52.12	(22.58)	48.64	(21.43)	51.13	(21.21)
M diff (Ctr-Exp)	.03		.00		-.04		-.04		3		2.03	
t (df);	.61 (3585);		.02 (3503);		.69 (2766);		.04 (3644);		3.67 (3644);		2.27 (2826);	
p	.5390		.9805		.4873		.9662		.0002***		.0231*	

Note: * p <.05; ** p <.01; *** p <.001; M diff refers to Mean difference between control group and experimental group; At pretest and post-test experimental group n=2683 and control group n=963; At post-post-test experimental group n=2063 and control group n=765

In order to investigate whether the poll results provided during the questionnaire affected people's opinions, it was subsequently tested whether the experimental and control groups of the first survey wave differed significantly in their opinions in the post-test condition (t_{12}; shortly after the experimental group had been exposed to poll information). Table 7-3 shows that personal opinions on the three issues considered did not differ significantly (i.e. p-values of t-tests > .05) in the post-test condition between the two groups. On average, the respondents of both the control group and experimental group answered most frequently the balanced middle category 'neither agree, nor disagree' regarding the independence of Flanders (mean control group=2.66; mean experimental group=2.73) and concerning the restrictive immigration policy (mean control group=3.17; mean experimental group=3.17). Likewise, both groups tended to agree with the issue-question regarding the retirement income (mean control group=3.68; mean experimental group=3.64). The absolute between-group differences in reported opinions ranged from 0 to .07. These findings indicate that providing poll information to the experimental group did not affect their personal opinions between the pretest and post-test measurements during the first survey wave.

In addition to these tests for personal opinions, the between-group differences were tested for the post-test perceptions of collective opinion regarding the same three issues (t_{12}). As can be seen from Table 7-3, these perceptions did differ significantly between the experimental and control groups in the post-test condition, while they were similar in the pretest condition. Regarding the first issue studied, the poll result provided came from a media-poll which showed that 12 percent of the Flemish population favoured the independence of their region. Table 7-3 shows that shortly after being exposed to this poll result the experimental group reported a significantly lower percentage of Flemish people that would favour the independence of Flanders (40.88%) compared with the report from the control group (45.35%). However, the Cohen's measure of effect size was rather small (Cohen's d=.219). Concerning the second issue, the experimental questionnaire disclosed that 30 percent of the Belgians did not know whether their retirement income would be enough to pay extra health-care costs. The respondents' estimates of the state of collective opinion on this issue differed on average by 6.4 percent between the groups in the post-test condition; the average reported percentage was 62.10 in the control group and only 55.67 in the experimental group. The size of this effect was small (Cohen's d=.354). Likewise, the groups significantly differed in their post-test perception of collective opinion on immigration

policy after the experimental group had been exposed to the poll result that 43 percent of the Flemish population agreed that Belgium should not allow any or only allow a few people from poorer countries outside Europe to come and live in Belgium. Again, the mean percentage given by the experimental group in the post-test condition was significantly lower (48.64%) than that of the control group (51.63%), but the effect size was very small (Cohen's d=.136).

It was thus observed that the personal opinions of the three issues studied (i.e. independence of Flanders, retirement income and immigration policy) did not differ significantly between the experimental and control group, neither in the pretest condition, nor in the post-test condition. On the other hand, the perceptions of collective opinion on the same three issues did not differ between the groups in the pretest condition, while they significantly differed in the post-test condition. These results indicate that the poll information provided to the experimental group may have affected primarily, though to a small degree, the subjects' perceptions of collective opinion, but not their personal opinions on the independence of Flanders, retirement income and immigration policy. Indeed, whereas for the personal opinions, the null hypothesis of no significant poll effects could not be rejected (Hypothesis 1; $H1_0$), for the perceptions of collective opinion, it could be rejected ($H1_A$). This is in line with the expectations, based on the impersonal media influence hypothesis (Mutz, 1998; Mutz & Soss, 1997).

Since a significant effect from the poll information could be observed on the perceptions of collective opinion, three additional questions were addressed: are there individual differences in this poll effect (differential poll effect)? Are poll effects observed only shortly after being exposed to poll information, or also three months later (duration of poll effect)? And can the occurrence of poll effects be replicated by the same method at another occasion (replication)?

7.4.2. Individual differences in poll effects

A first additional set of hypotheses (H2) explores differential patterns of poll impact within the sample of the first survey wave for three specific characteristics (level of opinion strength, political interest and perceived poll influence). Because the exposure to poll information did only affect the perceptions of collective opinion, differences in the poll effect on personal opinions are not further discussed. In order to study individual susceptibility to effects from

exposure to specific poll information, multivariate regression analyses were performed with the post-test perceptions of collective opinion (t_{12}) on the three issues of the first survey wave (Flemish independence, retirement income, immigration policy) as the dependent variables, while the pretest perceptions (t_{11}) were included in the analyses as control variables, which is necessary to study opinion change (Allison, 1990; Cronbach & Furby, 1970). Furthermore, three interaction effects of the moderators with the experimental treatment were included. First, a model was tested with the experimental group-variable and the pretest perceptions as main independent variables, after which the three moderators (opinion strength, political interest and perceived poll influence) were included to explore their main effects on the perceptions of collective opinion. Subsequently, the interaction effects between group and the three moderators were added to the regression equations (Baron & Kenny, 1986). The effects of the moderators political interest, opinion strength and perceived poll influence were considered as additive effects in the present analysis. These moderators did not show high bivariate correlations[51], and inclusion of additional interaction terms between the moderators (e.g. between opinion strength and political interest) in the regression equations did not result in significant findings.

Descriptions of the variables included in the analyses can be found in Appendix D and the results of the analyses are presented by issue in Table 7-4. The first model tested in Table 7-4, which includes only the experimental group-variable and pretest perceptions of collective opinion (Model 1) shows that the effect of group was significant on the post-test perceptions of collective opinion for the three issues. This is in line with the previously discussed results (cf. Table 7-3). Furthermore, for the three issues significant positive relations between the pretest perceptions and the post-test perceptions were observed. The inclusion of this pretest perception was particularly responsible for the relatively high R-square scores, which ranged between 42 and 65 percent. The additional inclusion of the moderators (Model 2) and interaction effects between these moderators and the group-variable (Model 3) could not add much to the explained variance in the post-test perceptions of collective opinion (i.e. with a maximum of 2% increase in the R-square value).

[51] Bivariate correlations between the moderators were fairly low: between political interest and opinion strength: -.03 for Flemish independence, .02 for retirement income and .04 for immigration policy; between political interest and perceived poll influence: .01; between perceived poll influence and opinion strength: .06 for Flemish independence, .03 for retirement income and -.02 for immigration policy.

Table 7-4: Regression analyses of interaction effects on post-test perceptions of collective opinion (t_{12})

	Model 1=Group & Pretest				Model 2=Model 1 + Moderators				Model 3=Model 2 + Interaction of moderators with group			
Issue	B	SE B	β		B	SE B	β		B	SE B	β	
Independence of Flanders												
Group: Experimental	-5.20	0.45	-0.11	***	-5.11	0.45	-0.11	***	-4.90	1.43	-0.10	***
Pretest perception (t_{11})	0.85	0.01	0.80	***	0.79	0.01	0.75	***	0.79	0.01	0.75	***
Opinion strength					1.54	0.17	0.10	***	1.57	0.30	0.11	***
Opinion strength X group									-0.00	0.33	0.00	
High political interest					-1.48	0.66	-0.02	*	-2.90	1.31	-0.10	*
Moderate political interest					-1.40	0.43	-0.03	**	-1.50	0.84	0.00	†
High political interest X group									1.89	1.51	0.03	
Moderate political interest X group									0.15	0.98	0.00	
Perceived poll influence					0.10	0.08	0.01		0.17	0.16	0.02	
Perceived poll influence X group									-0.10	0.18	0.00	
R^2	0.65				0.67				0.67			
n	3464				3426				3426			
Retirement Income												
Group: Experimental	-6.40	0.50	-0.10	***	-6.34	0.55	-0.15	***	-8.00	3.54	-0.20	*
Pretest perception (t_{11})	0.71	0.00	0.63	***	0.71	0.01	0.62	***	0.71	0.01	0.62	***
Opinion strength					1.66	0.33	0.06	***	1.28	0.66	0.05	†
Opinion strength X group									0.53	0.77	0.06	
High political interest					-0.72	0.80	-0.01		0.47	1.59	0.01	
Moderate political interest					-0.61	0.52	-0.02		-0.90	1.01	0.00	
High political interest X group									-1.60	1.84	0.00	
Moderate political interest X group									0.33	1.18	0.01	
Perceived poll influence					-0.14	0.10	-0.02		-0.10	0.19	0.00	
Perceived poll influence X group									-0.10	0.22	0.00	
R^2	0.42				0.42				0.42			
n	3464				3495				3495			

(Table continues on next page)

	Model 1=Group & Pretest				Model 2=Model 1 + Main effect moderators				Model 3=Model 2 + Interaction effect moderators with group			
Issue	B	SE B	β		B	SE B	β		B	SE B	β	
Immigration Policy												
Group: Experimental	-3.00	0.60	-0.10	***	-3.00	0.60	-0.10	***	-0.80	2.83	0.00	
Pretest perception (t_{11})	0.70	0.00	0.73	***	0.70	0.00	0.73	***	0.70	0.01	0.73	***
Opinion strength					1.64	0.30	0.07	***	1.94	0.54	0.08	***
Opinion strength X group									-0.40	0.62	0.00	
High political interest					1.19	0.80	0.02		-0.70	1.61	0.00	
Moderate political interest					-0.60	0.50	0.00		-2.40	1.03	-0.10	*
High political interest X group									2.55	1.86	0.03	
Moderate political interest X group									2.32	1.19	0.05	†
Perceived poll influence					0.10	0.10	0.01		0.41	0.19	0.05	*
Perceived poll influence X group									-0.40	0.22	-0.10	†
R^2	0.54				0.55				0.56			
n	3464				3476				3476			

Note: † p <.10; * p <.05; ** p <.01; *** p <.001; Dependent variable=post-test perceptions of collective opinion (t_{12}) on 0-100% scale

Before the three interaction effects were tested, the main effects of the moderators were included in the models for the three issues (cf. Model 2 in Table 7-4). Table 7-4 shows that for the three issues, the main effect of opinion strength on the perceptions of collective opinion was significant. This means that significantly different perceptions of collective opinion were reported, depending on how important these issues were considered by the respondents. The main effect of political interest, on the other hand, was only significant for the issue of the Flemish independence. This result indicates that people with high and moderate political interest reported different perceptions of collective opinion on the Flemish independence, and in particular lower percentages of other Flemings favouring the independence of Flanders, compared to people with low political interest. In contrast, the main effect of the third moderator, perceived poll influence, did not show significant results on the perceptions of collective opinion for none of the issues studied.

Subsequently, models were tested with the interaction effects between the moderators and experimental group treatment, added to the main effects of the moderators (cf. Model 3 in Table 7-4). Firstly, it was investigated whether different levels of opinion strength were related to a differential impact of poll information on the perceptions of collective opinion (Hypothesis 2a). As Table 7-4 shows, the interaction effect between group and opinion strength was never found to be significant. Thus although the main effect of opinion strength on the perceptions of collective opinion was significant (cf. Model 2), it was not observed that people with weaker opinions on the three issues were affected differently in their perceptions of collective opinion by the poll information provided, compared to people with stronger opinions (cf. Model 3).

Secondly, it was investigated whether people with moderate levels of political interest would be more affected by poll information than those with the highest or lowest levels of political interest (Hypothesis 2b). Only for the issue of the immigration policy, the interaction effect between group and the moderate level of political interest was borderline-significant at the 5 percentage alpha level ($p=0.052$). This finding suggests that people with a moderate level of political interest were affected differently by the provision of new poll information on the immigration policy, compared to people with the lowest levels of political interest. More specifically, the interaction effect indicates that the difference between the moderate and

lowest levels of political interest gets smaller within the experimental group, compared with the control group. Further inspection of the data revealed that this was especially due to a decline in the perception of collective opinion reported for those with the lowest level of political interest within the experimental group.

Finally, it was tested whether different levels of perceived poll influence on one's own opinion were related to differential levels of susceptibility to poll effects on perceptions of collective opinion (Hypothesis 2c). However, the interaction effect between perceived poll influence and group did not reach the standard levels of significance. Only for the issue of immigration policy, this interaction effect was borderline-significant at the 10 percentage alpha level ($p=0.06$). It indicates that the positive effect of the perceived poll influence on the perception of collective opinion about immigration policy was attenuated by the experimental treatment. For this issue, it should be noted that by the inclusion of the interaction effects, group became non-significant, and the main effect of moderate political interest and perceived poll influence became significant. This suggests that the significant difference between the experimental and control groups disappeared under the control of the interaction terms. Furthermore, under control of these interaction terms, the main effect of moderate political interest and perceived poll influence on the perceptions of collective opinion were significant under the condition that group is zero, or equal to the control group.

7.4.3. Duration of poll effect on perceptions

Another additional research question (RQ1) explored about the observed poll effect on the perceptions of collective opinion was whether it was only observed only shortly after being exposed to the specific poll information (in the first survey wave), or also at a later moment (in the second survey wave)? To evaluate this duration of the poll effect on the perceptions of collective opinion, the second survey wave comprised opinion questions on two issues that were identical to the first wave (independence of Flanders, immigration policy) so that the experimental and control groups of the first survey wave could be compared at an additional third time point (t_{11}, t_{12}, t_{23}). Table 7-3 contains the results. Whereas the personal opinions did not significantly differ between the experimental and control groups at the three survey moments, the perceptions of collective opinion did significantly differ between the groups not only in the first post-test condition, which was tested at the end of the first survey wave, but also in the second post-test condition, which was about three months after this first wave.

Regarding the first issue, it was observed that the respondents in the second survey wave perceived a slightly higher average percentage of Flemish people who favoured an independent Flanders compared with the first wave. This is in line with what could be expected based on general media content. Between the waves, the media frequently reported on a further stage in the Belgian state reform, which would give the regions more autonomy. For example, using the press database *Mediargus* it was found that as much as 719 articles mentioned 'state reform' between March and May 2008 in the 7 largest Flemish newspapers. This could have contributed to people's increasing perception of others favouring an independent Flanders. Shortly after being exposed to the poll result that 12 percent of the Flemings favoured independence (post-test), the experimental group reported a perception that was on average 4.5 percentage points lower than the control group who received no such poll information. After three months (post-post-test), the perception reported in the experimental group increased again, but remained on average 2.3 percentage points lower than the control group. Concerning the immigration policy, it was found that the average reported perceptions of collective opinion did not vary much over time in the control group (52-53%). This absence of much change in opinions is in line with the limited media-attention between the waves about the issue. For example, only 27 articles mentioned 'migration policy' between March and May 2008 in the 7 largest Flemish newspapers. By contrast, in the experimental group, the perception of collective opinion slightly decreased to 49 percent shortly after being exposed to the unpublished survey information that 43 percent of the Flemish people agreed with a more restrictive immigration policy (post-test). After three months, the average perception of the experimental group increased again to 51 percent (post-post-test), which was still significantly different from the control group with 2 percentage points.

Thus, it seems that although the poll effect on the perceptions of collective opinion observed during the first survey wave was somewhat reduced, significant differences in the perceptions reported were still found between the experimental and control groups after three months. This finding suggests that the effect of poll information on the perceptions was observed not only shortly after being exposed to the poll information, but also after a longer period of time, though it became somewhat weaker. This effect could have been decreased, as well as increased during the waves, because of interpersonal communication with family and friends

or the external media-information between the survey waves. To study this further, however, a content analysis of the media-content during that period is required, as well as the inclusion of additional questions about it in the survey of the second wave.

7.4.4. Replication of poll effect on perceptions

Apart from the duration of the poll effect on the perceptions of collective opinion, a final additional question (RQ2) addressed was whether this poll effect observed in the initial experiment could be replicated? This replication of the poll effect was tested by using the same measurement procedure in the second survey wave, but with two different issues (purchasing power and solidarity in the health-care system). Similar to the initial experiment tested in the first wave, personal opinions and perceptions of collective opinion were compared by two-sided t-tests between the experimental and control group of the second survey wave before and shortly after the poll information was provided. Table 7-5 presents the results.

As can be seen from Table 7-5, the findings of the replicated experiment in the second survey wave resembled those of the initial experiment conducted during the first wave. Similar to the first wave, the personal opinions on both issues did not significantly differ between the groups, neither in the pretest condition, nor in the post-test condition (i.e. shortly after being exposed to the poll information). Furthermore, as observed in the first wave, the perceptions of collective opinion on both issues did differ significantly between the groups in the post-test condition, while they were similar in the pretest condition. Comparable to the first wave, the Cohen's measures of effect size were relatively small (for purchasing power: Cohen's d=0.33; for health-care solidarity: Cohen's d=0.35).

Moreover, the observed changes in the perceptions of collective opinion within the experimental group were in the expected direction, namely in the direction of the poll results provided during the survey. More specifically, it was observed that if the average reported perception of collective opinion in the pretest condition was higher than the poll information provided, the average perception decreased in the post-test condition. For example, the average perception of collective opinion on the issue of purchasing power surveyed in the second wave was higher in the pretest condition (about 75%) than the poll result provided (47%). Subsequently, the average perception decreased to 70 percent in the post-test

condition for the experimental group, which was 6 percentage points lower than the control group. Such decreasing effects in the reported perceptions of the opinion climate were also found for the three issues studied in the first survey wave. Likewise, opinion change in the opposite direction was observed for the issue of solidarity in the health-care service. As the average perception of collective opinion was lower in the pretest condition (58-59%) than the poll information provided (81%), the average perception increased in the post-test condition to 66 percent for the experimental group, which was 6 percentage points higher than the control group.

In sum, the findings of the first survey wave were replicated in the second survey wave, namely that only the perceptions of collective opinion were affected by the provision of poll information, while the personal opinions remained unaffected. Indeed, it was repeatedly observed in both survey waves that whereas for the personal opinions, the null hypothesis of no significant poll effects could not be rejected, it could be rejected for the collective perceptions. Moreover, the findings of the second survey wave showed that change observed for the perceptions of collective opinion was in the direction of the poll information provided, and this was observed both in the increasing and the decreasing direction.

Table 7-5: T-tests of mean differences in personal opinions and perceptions of collective opinion on two issues between the experimental (n=1383) and control groups (n=680) of the second survey wave at t_{21} and t_{22}

Issue	Personal opinion				Perception of collective opinion			
Purchasing Power	Pretest (t_{21})		Post-test (t_{22})		Pretest (t_{21})		Post-test (t_{22})	
Group	Mean	(SD)	Mean	(SD)	Mean	(SD)	Mean	(SD)
Control group	4.18	(1.12)	4.26	(1.02)	74.76	(17.49)	75.91	(17.37)
Experimental group	4.26	(1.06)	4.32	(0.94)	74.20	(17.35)	69.62	(18.86)
M diff (Ctr-Exp)	-0.09		-0.06		0.56		6.29	
t (df);	-1.70 (2029);		-1.28 (2032);		0.69 (2061);		7.30 (2061);	
p	.0884		.2006		.4902		p<.0001***	
Health-care Solidarity								
Group	Mean	(SD)	Mean	(SD)	Mean	(SD)	Mean	(SD)
Control group	3.92	(1.08)	3.90	(1.07)	58.34	(18.73)	59.83	(18.56)
Experimental group	3.96	(1.04)	3.97	(0.99)	59.13	(19.44)	65.84	(17.74)
M diff (Ctr-Exp)	-0.03		-0.06		-0.80		-6.01	
t (df);	-.70 (2041);		-1.30 (2042);		-0.89 (2061);		-7.12 (2061);	
p	.4871		.1923		.3749		p<.0001***	

Note: *** p <.001; M diff refers to Mean difference between control group and experimental group

7.5. Discussion and conclusion about effects from specific poll information on opinion

This chapter empirically studied the effects from exposure to specific poll information on personal opinions and perceptions of collective opinion by an experimental survey. In two survey waves, real poll information was provided to respondents in an experimental setting concerning five non-electoral, though politically-relevant issues with different levels of media-attention and opinion polls published about them (Wave 1: the independence of Flanders: high frequency of media-attention and many polls published; retirement income: lower frequency of media-attention and less polls published; immigration policy: low frequency of media-attention and no polls published; Wave 2: people's purchasing power: high frequency of media-attention but not many polls published; solidarity in health-care system: low frequency of media-attention and not many polls published).

The central research question addressed was about a main poll effect on personal opinions and perceptions of collective opinion. This was tested by an initial experiment in the first survey wave, and replicated in the second survey wave. In the initial, first-wave experiment, it was observed that the provision of poll information did not influence the personal opinions on political issues. However, the perceptions of collective opinion on these issues did differ significantly, though to a small degree, between the experimental and control groups in the post-test condition. These findings were in line with the first hypothesis based on the impersonal influence theory (Mutz, 1998; Mutz & Soss, 1997; Tyler & Cook, 1984). Additionally, differential effects of poll results on the perceptions of collective opinion were explored by multivariate regression analyses in which interaction effects of opinion strength, political interest and perceived poll influence with the experimental treatment were included. However, in contrast to the second set of expectations, these interaction effects mostly did not show statistically significant results. Only for the issue of immigration policy, the interaction effects of group with the moderate level of political interest and with the perceived poll influence were borderline-significant at the 10 percentage level. Thus, for the present study, differential effects from exposure to specific poll information due to individual characteristics were not observed. These may be due to limitations of the experimental study that are discussed further in this section.

The main poll effect on the perceptions of collective opinion could be replicated by a second-wave experiment, by using the same measurement procedure at a later occasion. Again it was observed that, whereas the personal opinions did not significantly differ between the groups in neither test condition, the perceptions of collective opinion did show significant differences shortly after being exposed to related poll information. Moreover, movements in these perceptions of collective opinion were in the direction that could be expected based on the poll information provided. More specifically, it was found that if the average reported perception in the pretest condition was higher (lower) than the poll information provided, this average perception decreased (increased) into the direction of the poll result provided. Thus, it was successively found and consistently for all issues that the provision of poll information affected the perceptions of collective opinion without affecting the personal opinions.

Finally, it was investigated whether the main poll effect on the perceptions of collective opinion could be observed not only shortly after being exposed to poll information, but also three months later. To address this question about the duration of poll effects, the second survey wave contained an additional post-test of identical opinion questions, which was conducted three months after the first survey wave. The findings indicate that the perceptions of collective opinion still differed between the experimental and control groups in this post-post-test condition. Thus, the poll effect on the perceptions could still be observed after three months, though it was weakened. This is rather remarkable, given that the respondents were provided with poll results on the issues only during the first survey wave. Though, it should be noted that after weighting for age, the groups of the second survey wave differed in their frequency of news media use, which might, together with other, unmeasured variables contribute to the between-group opinion differences observed in the second wave. Furthermore, interpersonal communication with family and friends, as well as the external flow of media-communication may be additional factors of influence on the over-time duration of this poll effect. However, a content analysis of the media-content during the survey waves, as well as the inclusion of additional questions about it in the second survey wave would be required in order to have better control over these additional factors of possible influence on the duration of poll effects.

This brings us to some other limitations of the experimental study. First of all, performing an experiment to discover effects from poll information on opinions raises the question of artifact (Hardmeier, 2008; Loosveldt, 2006, pp. 166-167). The subjects of an experimental group were provided with a very clear indication of collective opinion, compared with reality in which a large part of the public is relatively inattentive to political information and poll results (Nadeau et al., 1993, p. 211). A related problem is that a single stimulus will rarely make people 'with firm convictions or clear ideas about the subject abandon their views' (Lang & Lang, 1984, pp. 133-136). Although these limitations also apply to the present study, they were reduced by providing the respondents with several poll results about different issues of which only some were actually related to the experiment. Furthermore, real poll information was provided to the respondents, in order to contribute to the external validity of the experiment. In this way, respondents were given poll information that was plausible. However, a limitation of this is that people could have been affected by this media-disseminated poll information before the experiment. Accordingly, the experiment performed was not a real 'laboratory' experiment, but rather an attempt to imitate real media-information about polls, and elicit similar responses to it. However, the observed effects from the poll information should be considered in conjunction with any poll effects from the external media-flow of information that could have occurred before.

The observation of rather weak effects from exposure to specific poll information on opinions and the general lack of significant interaction effects with individual characteristics might have been partially due to the use of a pretest during the same survey as the post-test. Indeed, by asking opinion questions at the beginning of the questionnaire (pretest), a 'consistency' effect could have occurred from the survey design, rather than from the experimental provision of poll information. Indeed, respondents may have given responses in the post-test condition that were consistent with those of the pretest. This could have been especially the case, because the pretest and first post-test were conducted during the same survey. As a consequence, actual effects of exposure to the polling data may have been suppressed. The present design, however, did not allow to estimate effects from the inclusion of a pretest. This could have been done by not using a pretest in a particular subgroup and compare their opinions with those for who a pretest was used. However, despite the short time span between the pretest and first post-test opinion measurements, significant differences in the perceptions of collective opinion could be

observed in the experimental group after exposure to the poll information, as well as three months later. Moreover, the main effect of exposure to poll information on the perceptions between the beginning and end of the survey could be observed repeatedly in two survey waves. Therefore, the effect from poll information on perceptions of collective opinion could be replicated. An alternative explanation for the observation of effects on the perceptions, though, could be that people are typically uncertain about collective opinion and in order to estimate it, they could have used the poll information that was provided in formulating their answer to the question about collective opinion.

Finally, it has to be noted that the data were collected by an online access panel, which was not representative of the general public, though the experimental aim of the study allowed to use such an online data collection. However, the partly self-selected recruitment of online panel members, among whom a sample was drawn for the experiment may include persons who have a different attitude toward polling than persons who are not in the online access panel. Following Loosveldt and Storms (2008) who conducted a survey to measure people's opinions on surveys, it might be expected that those who participate in a survey have a more positive attitude towards surveys than those who refuse to participate. This may imply that people who voluntarily agreed to participate regularly in online surveys might have an even more positive attitude towards surveys. A possible consequence is that smaller effects might have been found than when a representative sample of the population had been used, which would show a higher degree of variation in the attitudes towards polls, and hence the possibility of finding greater effects. It could be suggested to use a strictly laboratory experiment without relying on the Internet to collect the data. Such a design could have increased the internal validity, but not necessarily the external validity or representativeness of the results (Loosveldt, 2006, pp. 166-167). By asking people to participate in a survey, they might not have been aware of the experiment embedded in the questionnaire, which would have been more difficult for a laboratory experiment. Finally, the data collection method based on an online access panel might resemble the method of opinion polling frequently used by the media themselves. In this way, the sample of respondents obtained might be similar to the respondents reported in the published opinion polls.

Although the reported poll effects on the perceptions of collective opinion were fairly small, they may have important implications. On the one hand, the findings of this study are reassuring, because they show that people do not adjust their personal opinions in light of any poll information they are exposed to. This undermines the assumption that published polls would have direct and devastating effects on the public, which has been often the rationale for introducing embargos on the publication of poll publications before elections (Voorhoof, 1992; Donsbach, 2001). On the other hand, the findings repeatedly and consistently show that the respondents were not completely indifferent to the poll results provided. Indeed, they indicate that people can integrate poll information in their perceptions of the general opinion climate. This may have consequences for the use of poll results in news media reports. Indeed, polls that are publicly reported should be conform to methodological survey standards, in order to reflect the true opinions of the general public, on which people could accurately base their perceptions of the general opinion climate. However, the empirical findings in Chapter 2 showed that polls in the Flemish newspapers are reported unambiguously by poorly disclosing methodological limitations of the polls published.

Finally, it may be suggested that people's perceptions of what others in society think might eventually, after a longer period of time than was studied, influence the personal opinions. This might be reinforced when poll results are not merely reported as raw data, but also frequently used by the media in their general news stories. But in order to study whether perceptions of collective opinion might eventually influence political opinions, longitudinal research is necessary in which personal opinions and perceptions of collective opinion on the one hand, and the news media's use of poll results on the other, are closely monitored over a longer period of time. With such a design, movements in the different levels of opinion can be studied in a more natural setting than in an experimental design. The next chapter is an initiative in that direction, as poll effects are studied beyond an controlled experimental setting, for which previously news media publications about opinion polls were content analyzed.

Chapter 8.
Natural Field Experiment of Effects from Exposure to Poll Publications on Opinions

The present chapter is the third section in the empirical study of possible effects from exposure to media-disseminated polls on individual opinions. The first section, presented in Chapter 6, studied the role that news media can play in individual opinion formation, by using the *European Social Survey* data about general news media exposure. The second section of the empirical study of poll effects on opinions, presented in Chapter 7, focused on the effects from exposure to specific poll information which was provided by the researcher in the course of a survey experiment. In order to integrate insights gained from the analysis of general survey data and the experiment on specific poll information, this third section of the empirical study of poll effects on opinion is designed as a natural field experiment, which includes a content analysis of poll publications in the news on the basis of which a quasi-experimental survey was designed. This research design enables to study exposure and attention to specific opinion polls in the news, in addition to general exposure to news media (Chapter 6). Furthermore, the research design takes into account problems related to external validity of experimentally observed effects, because poll effects are studied beyond the controlled experimental setting in which exposure to poll information was controlled by the researcher (Chapter 7). In line with the previous two empirical chapters about poll effects, the focus is on several non-electoral issues with political relevance, about which a varying number of media reports, and more specifically poll reports were published: political trust, immigration policy and independence of Flanders.

The main questions addressed are the following: Does exposure to specific poll information previously published by the news media affect personal opinions in a natural setting? And,

similarly to Chapter 6, does this influence from exposure to actual poll publications on personal opinions work only directly, or also indirectly through perceptions of collective opinion? A question additional to Chapter 7 is whether and to what degree exposure to specific poll information previously published by the news media increases the knowledge about poll results in a natural setting? Thus, besides poll effects on personal opinions and perceptions of collective opinion, the specific nature of the quasi-experiment also allows to study effects from particular opinion polls previously published in the news on knowledge about these poll results, using information from a content analysis of poll publications.

More specifically, this content analysis of news media reports about opinion polls was conducted both in newspapers and television news in order to design the quasi-experimental survey, namely to collect information about opinion polls published in the news media prior to this survey. A period of more than four months before the regional and European elections of June 2009 was selected as the time period under study, since an intensified frequency of poll publications could be expected during such a pre-electoral period (cf. Subsection 2.4.3.4.a. about electoral peaks in the volume of poll news). Thus, the focus is on a particular time period and includes both newspaper and television journal items, while Chapter 2 of Part I presented the findings of a content analysis of newspaper articles about polls over six years (2000-2006). In that chapter, questions were addressed about the relationship between news media and opinion polls (characterized by high media-attention to and close media-involvement with the polls published), as well as about the manufacturing role of the news media in creating poll news, due to tensions between poll characteristics and four news criteria (frequency, unambiguity, meaningfulness, continuity). The objective of the current content analysis is not to repeat completely this extensive analysis, but to obtain further information about specific opinion polls published in a pre-electoral period in order to design the survey questionnaire for the natural field experiment. Furthermore, this repeated content analysis enabled to explore additional comparisons between the previously conducted content analysis and the present one.

8.1. Poll effects in a natural setting

This third section of effects from poll publications on opinions investigates poll effects in a natural setting. The substantive findings of previous chapters about poll effects on opinions

are supplemented with additional results for effects on knowledge about poll results. Furthermore, methodological limitations of the previous chapters were addressed by designing a natural field experiment consisting of a quasi-experimental survey preceded by a content analysis of news reports about polls that previously appeared in the Flemish news media.

8.1.1. Learning from poll publications

Until now, effects from exposure to poll publications on *opinions* were investigated in this dissertation. In Chapter 6, a path analysis was performed to study the direct and indirect effects of news media exposure on personal opinions and perceptions of collective opinion. Although indirect effects of news media exposure on personal opinions through perceptions of collective opinion were very small, it was observed that reading about politics in newspapers was borderline-significantly related with personal opinions for one issue studied and that watching television news was significantly related with the perceptions of collective opinion for two of the three issues studied. Furthermore, the path from perceptions of collective opinion to personal opinions was significant for all three issues studied. This indicates important interrelationships between news media exposure, personal opinions and perceptions of collective opinion, as well as the possibility of direct and indirect media-effects on opinions (Mutz, 1998; Mutz & Soss, 1997; Tyler & Cook, 1984), though the observed effects were rather weak.

Furthermore, in the survey experiment of Chapter 7, it was found that whereas the personal opinions were not affected by the provision of specific poll information, the perceptions of collective opinion were significantly different between the experimental and control group, which respectively received and did not receive related poll information during the survey. The effect observed was in the direction that could be expected based on the poll results provided. Moreover, this poll effect on the collective perceptions could be replicated and was still observed for all issues under consideration three months later, though it was somewhat muted. This observation that poll information previously published by the news media affected primarily the perceptions of collective opinion, rather than the personal opinions was in line with previous research about 'Impersonal media-influence' (Mutz, 1998; Mutz & Soss, 1997). Such an effect of poll publications on the collective perceptions

could be expected because the provided poll information showed an indication of collective opinion, and hence could be used in formulating the perceptions of collective opinion.

Whereas the previous chapters investigated effects from exposure to poll publications on personal opinions and perceptions of collective opinion, the present chapter additionally takes into account effects on knowledge about poll results. As aforementioned (cf. Subsection 3.2.3), effects of poll publications on opinions can occur because of high information processing, such as cognitively responding to poll information, or because of low information processing, such as bandwagon effects or cue taking (Petty & Cacioppo, 1986; Petty & Wegener, 1999; Hardmeier, 2008; Mutz, 1998; Shiraev & Sobel, 2006). Likewise, effects of poll publications on knowledge about opinion polls might occur due to similar mechanisms. Additionally, *learning* from media-content or gaining knowledge from it as a particular type of media-effect is especially relevant in this respect. It refers to knowledge gains due to information learned from the media. Previous research about learning effects found that especially awareness and concern over issues and candidates can be learned from the media, rather than rationally processing more detailed information, such as specific issue positions from candidates and parties. This might be because people wish to put limited time and effort in following political news (Weaver, 1996). Salient and accessible information provided by the news media then can be used as 'mental shortcuts' in forming an opinion (Iyengar & Kinder, 1987). However, Barabas and Jerit (2008) observed that even seemingly important events which received high levels of media coverage did not lead to significant gains in knowledge. Furthermore, based on a meta-analysis of media-effects studies, Clark (1983; 2001) posits that there is no learning advantage from a particular medium, which he considers as the mere delivery channel to the audience. Similarly, Norris and Sanders (2003) found that for an increase in knowledge, it is not the medium that matters, but the message. They observed no learning effects due to the features of different media, but due to the specific contents of the news that these media disseminated (Norris & Sanders, 2003). Learning effects or knowledge gains can be distinguished from opinion change or effects on evaluative judgments. For example, McCombs et al. (1997) found that media-effects due to agenda-setting were stronger for affective images of the candidates (i.e. positive, negative or neutral evaluation), than for cognitive attributes analyzed (e.g. ideology, qualifications and personal characteristics of candidates). In another context, Atkin and Heald (1976) observed both cognitive and

affective effects from exposure to political advertisements, namely that the level of knowledge about the issues and candidates increased, while the affect toward the candidates became more positive.

8.1.2. Increasing realism in the poll-effects research design

Although both exposure to news media and attention to opinion polls were included in the path models tested in Chapter 6 (Slater, 2004; Chaffee & Schleuder, 1986), the use of general survey data from the *European Social Survey* did not contain information about the exposure and attention to *specific opinion polls* previously published in the news. Thus, interrelationships between the different variables were observed, but it was not possible to disentangle news media effects, due to visibility, tone or content of general issues (e.g. Scheufele & Tewksbury, 2007; McCombs & Shaw, 1972; McCombs & Reynolds, 2002; Iyengar & Kinder, 1987; Kinder & Sanders, 1990), from specific poll exposure effects due to poll results presented and interpreted by media in the news. Therefore, complementary to the path-analyzed survey data about general news media effects, Chapter 7 focused on the effects from exposure to specific poll information which was provided by the researcher during a survey experiment.

However, if results are observed in an experiment, the question of external validity is raised (cf. Loosveldt, pp. 166-167). Indeed, experimental provision of poll results by the researcher during a survey might not be the same as paying attention to poll results in the 'real world', and in particular to different publications containing poll information in the continuous flow of media-messages. Therefore, respondents of the experimental survey could have used the explicitly provided poll information in their response about perceptions of collective opinion, while they might not have noticed that poll information in reality. Effects due to an experimental stimulus embedded in a survey generally produce stronger results, which would not necessarily have been observed in the real-world (Barabas & Jerit, 2008). Indeed, in a media-effect experiment, it is mostly ensured that the experimental group was exposed to the media information, such as opinion polls, while communication effects in the real world can often not be observed because there is a large 'inattentive audience'. Therefore, experiments can exaggerate mass communication effects (Kinder, 2007, p. 157). For example, Barabas and Jerit (2008) observed that effects in a survey experiment were much larger than in a similar natural experiment using the same topic and

outcome measures. Furthermore, they found that effects from a survey experiment are likely to be observed only among those who are highly attentive in the natural world, and who accept the new information (Barabas & Jerit, 2008).

In order to ensure a higher degree of realism in the poll-effects investigation, the third section of the empirical study of poll effects on opinions was designed as a natural field experiment in which quasi-experimental groups were distinguished, using data from a survey that was designed based on a content analysis of poll publications in the news. Natural field experiments in the social sciences have occurred for various research purposes (see Shadish, 2002, pp. 3-4). Shadish, Cook and Campbell (2002, p. 17; 511) define a natural experiment as 'a naturally occurring contrast between a treatment and a comparison condition', and describe a quasi-experiment as 'an experiment in which units are not randomly assigned to conditions'. Following these definitions, the present study is a natural field experiment, as people's real exposure and attention to poll publications in the news were used as the naturally occurring difference between an experimental group, who is naturally exposed to real poll publications appearing in the news media, and a control group, who is naturally not exposed to these poll publications. The present study is also a quasi-experiment, because the individuals surveyed are not randomly assigned to the experimental and control groups. Instead, it is the natural exposure to real poll publications that assign people in a non-random way to a *quasi*-experimental and *quasi*-control group. The next section goes into the objectives for the natural field experiment.

8.2. Objectives for the natural field experiment

The research design to examine poll effects in a natural setting consisted of a quasi-experimental survey, preceded by a content analysis of poll publications in newspapers and television news. More specifically, content analyzed data about poll publications was used to select the issues about which personal opinions and perceptions of collective opinion were surveyed, as well as to select the actual opinion polls and their results about which specific questions were included in the survey, and in particular about exposure to polls in the news (in terms of the amount of polls that were noticed in the news media) and knowledge of poll results that previously appeared in the news (in terms of the amount of correct answers to knowledge questions about poll results). The survey responses to the

question about exposure to polls in the news, in turn, were used to post-hoc classify the respondents into a quasi-experimental and –control group. Table 8-1 presents an overview of this research design.

Table 8-1: Research design of natural field experiment, with quasi-experimental stimulus, method and time

	Naturally exposed to poll publications in the pre-electoral period	Groups
Quasi-experimental stimulus	Yes	Quasi-experimental group
	No	Quasi-control group
Method	Content analysis of newspaper articles and television items about polls	Survey of exposure to polls, knowledge about poll results, and opinions
Time	January 15 - May 25, 2009	May 25 - June 4, 2009

The quasi-experimental stimulus was the natural exposure to poll publications in the Flemish news during the pre-electoral period before the elections of June in Flanders in 2009. For about five months before these elections (and more specifically between January 15 and May 25), newspaper articles and television news about opinion polls were monitored by a content analysis. This content analyzed information about poll publications in the news was used to design the survey (which was conducted between May 25 and June 4) about exposure to polls in the news, knowledge of poll results and opinions (personal opinions and perceptions of collective opinion) about general issues. Survey responses to the question about natural exposure to specific opinion polls that previously appeared in the news media was subsequently used to post-hoc classify the respondents into a quasi-experimental group, if they were naturally exposed to the actual poll publications and into a quasi-control group, if they were not exposed to these poll publications. Effects from this natural exposure to poll publications on personal opinions and perceptions of collective opinion about political issues, as well as on knowledge about poll results were investigated by two types of analysis: path analysis and between-group comparison. These two types of analysis correspond to the twofold aim of the natural field experiment in the present chapter: firstly (1), to investigate interrelationships among news media and opinions using specific indicators of news media exposure and poll attention (further specification of the path analysis reported in Chapter 6), and secondly (2), to compare opinions between a quasi-experimental and –control group based on natural

exposure to specific poll news (further specification of the experimental between-group analysis reported in Chapter 7). Both aims are successively discussed.

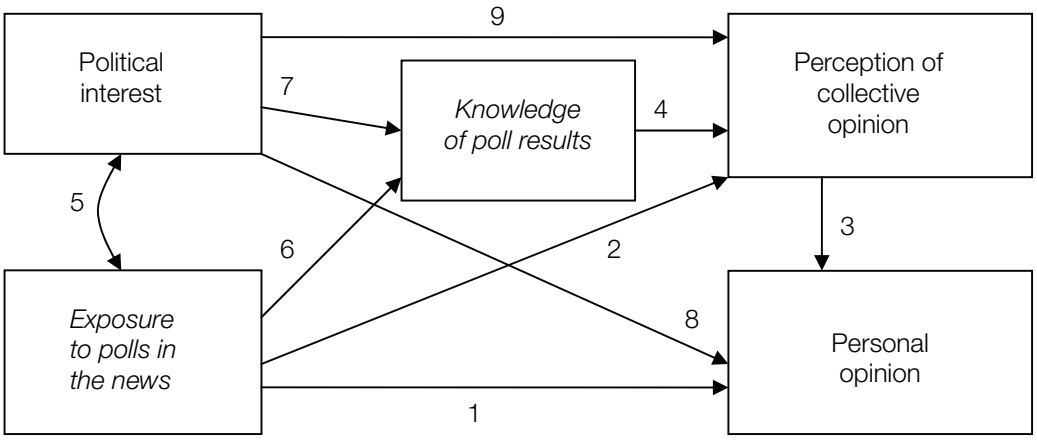
8.2.1. Aim to study interrelationships between poll exposure & opinions by specific indicators

The first aim of the survey, which was part of the implementation of the quasi-experimental research design (cf. Table 8-1), was to further investigate direct and indirect effects from news media exposure on personal opinions through perceptions of collective opinion, while taking into account interrelationships between political interest, news media exposure and poll attention. But in addition to general indicators of news media exposure and poll attention, more specific indicators of exposure to polls and knowledge of poll results were collected from the respondents. The a priori model developed in Chapter 6, based on Mutz's (1998) theoretical conceptions about impersonal influence from media on personal opinions, by affecting perceptions of collective opinion (cf. Subsection 6.1 & Subsection 3.4.4) was applied to the survey data in an identical form, but with specific indicators instead of general indicators of exposure and attention. In particular, instead of general news media exposure (measured by the frequency of time spent on using news media), and general poll attention (measured by the general frequency of attention to polls in the news); specific poll exposure was used (measured by the amount of specific polls that were noticed in the news media), as well as knowledge about poll results (measured by the amount of correct answers to knowledge questions about poll results). Figure 8-1 presents the path model tested.

The effects investigated in this path model with the specific indicators were similar to those in the path model with the general indicators reported in Chapter 6. Firstly, a direct effect was explored from exposure to polls in the news on personal opinions (Path 1 in Figure 8-1). However, the main objective was to study whether perceptions of collective opinion can mediate exposure to specific poll information previously published by the news media on personal opinions in a natural setting (news media → perceptions of collective opinion → personal opinions). Within the study of poll effects, it seems reasonable to assume that opinion polls reported in the media, which give an apparently clear indication of collective opinion (Lang & Lang, 1984; Gunther et al., 2001), primarily affect the perceptions of collective opinion, which in turn, might eventually influence the personal opinions (Mutz,

1998). This indirect effect implies an effect from poll exposure on perceptions of collective opinion (Path 2), as well as an effect from perceptions of collective opinion on personal opinions (Path 3). In addition to these direct paths from exposure to opinions, the indirect effect from poll exposure on personal opinions through collective perceptions was considered. In line with this expectation based on Mutz's impersonal influence (1998), a fourth expected effect was from knowledge of poll results on personal opinions, through perceptions of collective opinion. This indirect effect contains the direct effect from knowledge of poll results on perceptions of collective opinion (Path 4).

Figure 8-1: Hypothesized path analytic model with specific indicators of poll exposure and knowledge of poll results (italic). Arrows represent the effect of one variable on another



Similar to Chapter 6, the model simultaneously studied interrelationships between political interest, poll exposure and knowledge of poll results. The following paths were expected: firstly, a significant covariance between political interest and poll exposure (Path 5). Similar to the covariance between political interest and news media exposure, it may be suggested that people who are more politically interested will be exposed more frequently to polls in the news, or vice versa that people who are more frequently exposed to polls in the news will be more politically interested. Secondly, a positive effect was expected from poll exposure on knowledge of poll results (Path 6), because it may be suggested that more poll exposure in the news may lead to higher levels of knowledge about these poll results. Thirdly, a positive effect was expected from political interest on knowledge about poll results (Path 7). Indeed, more politically-interested persons may be expected to have a

higher level of knowledge about poll results. Finally, it was controlled for relationships between political interest and personal opinions (Path 8) and between political interest and perceptions of collective opinion (Path 9).

8.2.2. Aim to study differences in knowledge about poll results and opinions between quasi-experimental and quasi-control group

In addition to applying the path model of Chapter 6 to survey data about specific poll publications that appeared in the news media, the second aim of the research design was to use the same survey data to post-hoc classify respondents into a quasi-experimental and quasi-control group, based on their natural exposure to actually published opinion polls. In line with previous findings in the survey experiment of Chapter 7, similar expectations can be formulated for effects from natural exposure to poll publications on knowledge about poll results (Hypothesis 1; $H1_A$). In particular, due to natural exposure to poll publications in the news, knowledge about poll results might increase, because of learning effects from media publications (Weaver, 1996; Iyengar & Kinder, 1987; Salomon, 1984; Chaffee & Frank, 1996). Furthermore, based on previous findings, similar expectations can be formulated for natural poll effects on opinions, namely that the perceptions of collective opinion would be primarily affected by poll publications, rather than the personal opinions. Thus, it is expected that for the personal opinions, the null hypothesis of no significant poll effect in a natural setting cannot be rejected (Hypothesis 2, $H2_0$), while for the perceptions of collective opinion, this null hypothesis cannot be falsified, and hence it is expected that a poll effect might occur in a natural setting ($H2_A$).

To address these hypotheses, knowledge of poll results on the one hand, and personal opinions and perceptions of collective opinion on the other hand, were compared between a quasi-experimental and quasi-control group, which were distinguished based on their natural exposure to specific opinion polls that previously appeared in the Flemish news media (cf. Subsection 8.5.2 for the exact distinction between these groups). This will provide further information about effects from natural exposure to poll publications, in addition to effects from general news media exposure (cf. Chapter 6) and controlled exposure to specific poll information (cf. Chapter 7). Since the main difference between a natural and controlled experiment is the absence of a random assignment process for the quasi-experimental groups, weighting techniques might be useful to make these groups

similar for basic background characteristics. In particular propensity score adjustment has been applied in this context of non-equivalent group research designs. It is a statistical adjustment method that balances experimental and control groups for which there is no random assignment, such as in a quasi-experimental research design. It reduces bias due to the non-random assignment of the quasi-experimental groups, based on propensity scores of belonging to one of the quasi-experimental groups, using covariates of background characteristics. In this way, a more accurate estimation of the effects of an experimental stimulus can be obtained, because initial imbalance between the quasi-experimental groups is taken into account (Rosenbaum & Rubinstein, 1983; 1984; D'Agostino & Rubin, 2000; Yanovitzky, Zanutto & Hornik, 2005; Fraas et al., 2006).

The twofold aim of the natural field experiment was addressed by performing a survey that was based on a content analysis of poll publications that appeared in the news prior to this survey. First, the content analysis with its methodology and results is presented, after which information about the survey is provided. In between both, the selection of the issues on which the survey focused is motivated based on the content analyzed data. Therefore, that section serves as a hinge between the content analysis and survey of the natural field experiment.

8.3. Content analysis of poll publications

The research design of the natural field experiment (cf. Table 8-1) contained a content analysis of the Flemish newspaper articles and television news items about opinion polls that appeared in the pre-electoral period before the elections of 2009 in Flanders. This content analysis was performed in order to collect information about the poll publications prior to the survey. In this way, the content analysis provided useful information about the natural setting in which the natural field experiment was performed, and in particular about the specific poll publications that appeared in the Flemish news media during the pre-electoral period of 2009. By conducting this content analysis, two additional explorations with the data became possible, because a similar, though more extensive content analysis of newspaper articles was performed previously in Chapter 2 of Part I.

Firstly, it was possible to additionally compare between poll articles published in identical newspapers during a similar pre-electoral period. More specifically, the data of 2009 could be compared with the pre-electoral period of 2004, because in this year the same type of regional elections were conducted in Flanders at a similar moment[52]. Based on previous findings reported in Chapter 2, several a priori expectations about this over-time comparison can be formulated. Given the observed rise in the absolute number of poll publications between 2000 and 2006, it could be expected that in 2009 more poll articles would be published than in 2004. Regarding the use of polls in the news, it may be expected that in line with previous findings (cf. Subsection 2.4), polls would be dominantly focused upon in the news reports, but would disclose a low number of methodological poll aspects.

Secondly, it was possible to additionally investigate differences within the poll publications of 2009 between newspaper articles and television news items. These differences were explored in order to obtain additional information about poll news on television that was lacking for the mere newspaper analysis of Chapter 2. Based on previous research findings (e.g. Andersen, 2001; Smith & Verall, 1985; Suhonen, 2001; de Vreese & Semetko, 2002), it could be a priori expected that newspapers would contain more poll articles than television journals and that they would disclose more methodological poll aspects, because of their specific format (i.e. more space available for in-depth analysis of poll results and for the publication of methodological details).

To address these additional explorations with the content analyzed data, newspaper articles and television news items about polls were registered during the pre-electoral period of 2009. In the next sections, the selection of the Flemish news media channels (four newspapers and two television journals) is motivated, as well as the selection of the time period under study (pre-electoral period of more than four months before the elections of 2009). Subsequently, information is presented about the actual data collection, the coding instrument used and the intercoder reliability.

[52] Election Day in 2004 was on Sunday 13/06; while Election Day in 2009 was on Sunday 07/06.

8.3.1.1. Selection of news media

In order to content analyze the Flemish news media reports about opinion polls, both newspapers and television journals were selected. To select the newspaper titles, similar criteria to Chapter 2 were used, such as wide dissemination (and hence high possible reception of the poll publications by the audience), inclusion of both popular and quality papers, as well as belonging to different press houses and having different political origins (cf. Subsection 2.3.1.1). But whereas previously six of the largest newspapers in Flanders were taken into consideration, the present content analysis included the four largest newspapers. This was mainly due to pragmatic reasons, because of the additional inclusion of two television journals that were analyzed initially only by the researcher. Based on circulation figures (CIM, 02.2008) and the selection criteria mentioned, the following four newspaper titles were selected to be content analyzed again for 2009: within the quality newspapers, the titles *De Standaard* (circulation: 102 020; origins: catholic, centre-right; editor 'Corelio') and *De Morgen* (75 571; origins: socialist, left; editor 'De Persgroep') were selected, while *De Tijd* was not analyzed again (45 691; origins: independent; editor 'De Persgroep'). Within the popular newspapers, the titles *Het Nieuwsblad* (313 632; origins: catholic, centre-right; editor 'Corelio') and *Het Laatste Nieuws* (313 632; origins: liberal, right; editor 'De Persgroep') were studied, whereas *Gazet van Antwerpen* was not analyzed again (123 367; origins: catholic, centre-right; editor: 'Concentra Media').

In addition to these newspaper titles selected, the two most important television journals in Flanders were selected to content analyze, namely the daily news of the public broadcasting channel *Eén* and the daily news of the commercial television station *VTM*. For both, the 7 o'clock (p.m.) news was chosen to analyze, as it may be assumed to be the one with the highest number of viewers of the day, compared with the 1 or 11 o'clock (p.m.) journals. Indeed, rating figures for television (CIM, 07.2009) confirm that for the Flemish region, these 7 o'clock journals had the highest viewing numbers for news programs. For example, in the list of the 100 television programs (both information and entertainment programs) with the highest ratings for the year of 2008, the 7 o'clock news of the public television channel *Eén* was ranked at the 21st position, and the 7 o'clock news of the commercial television channel *VTM* was ranked at the 51st position, while the only other television news appearing in this list was the 11 o'clock news of the public television channel *Eén*, but only at the 71st place (CIM, 07.2009). Furthermore, it can be assumed

that analyzing one daily news journal per television channel would be sufficient, due to the highly similar news content between the different broadcasted hours of a day.

8.3.1.2. Selection of time period

In order to study the poll publications that appeared in the four largest newspapers and two most viewed television news journals, the pre-electoral period before the regional and European elections in Flanders in 2009 was selected. It was opted to study a pre-electoral period, though the focus of the study was not solely on electoral polls. The reason for this was that during such a period, political issues can be expected to receive more attention from the media, and hence that the public would be more frequently exposed to news, and to poll news in specific. For example, it was previously shown that a pre-electoral period consists of an important increase of poll news before Election Day about both electoral and general topics (cf. Chapter 2; Subsection 2.4.3.4.a.). Therefore, all news media reports referring to polls published within the period between January 15 and May 25, 2009 were content analyzed. By starting the content analysis as early as mid-January, which was more than four months before the actual elections, it was ensured that the beginning of the political election campaigns would be included in the selected period of study. This might be important to have information about the issues on which these political campaigns would focus upon. The end-date of the content analysis marks the beginning of the fieldwork for the survey, which was conducted between May 25 and June 4, 2009. This survey was ended before the elections of June 7, 2009. In this way, the entire study was completed in the pre-electoral period, since it may be expected that after the elections a different kind of poll publications would be published in the news (e.g. compared with the actual election outcome).

8.3.1.3. Data collection

Within the news media and time period selected, newspaper articles and television news items about opinion polls were collected. Both are successively discussed.

To collect the newspaper articles, the electronic press database *Mediargus* was used, which was also used for the content analysis of Chapter 2. Within the newspaper titles and the pre-electoral time period selected, articles about opinion polls were collected and registered in a database in which the newspaper articles were the unit of analysis. Similar

to Chapter 2, all articles explicitly referring to the keyword 'poll' in title or text were retrieved from the electronic press database, including news reports, interviews and opinion articles about poll results, their interpretations and methodological evaluations, with the exclusion of audience letters. Articles with any reference to specific opinion poll data, as well as to polls in general were registered. Furthermore, articles about all possible poll subjects (both electoral and general issues), from all possible pollsters (both media-polls and non-media polls), based on any methodology (non-probability- and probability-based polls) were included in the selection. The main criterion for selection was that the articles had to refer explicitly to an opinion poll, in which at least *Belgian* respondents were included (for more detailed information about the operationalized definition of a poll publication cf. Subsection 2.3.2, based on previous research of de Boer, 1995; Kim and Weaver, 2001; Suhonen, 2001).

To collect the television news items about opinion polls, similar selection criteria were used. The audiovisual support department of the KULeuven *AV-net*[53] provided the daily recordings of the two selected 7 o'clock television journals (from the media-channels *Eén* and *VTM*). These daily broadcasts were screened for references to opinion polls by the researcher. More specifically, the entire journals were watched and those news items in which opinion polls were explicitly mentioned in the headline or the spoken text were selected. These news items were registered in the database of poll reports (and used as the unit of analysis for television news), in addition to the newspaper articles about polls.

In total, 464 news reports about opinion polls were selected, of which 384 newspaper articles (from four daily newspapers) and 80 television items (from two 7 o'clock television journals).

8.3.1.4. Coding instrument

A coding instrument similar to Chapter 2 (cf. Subsection 2.3.3) was used to collect information about the poll publications that appeared in Flemish newspapers and television news. Since the main aim of the content analysis was to design the quasi-experimental survey, a less extensive version of the coding instrument was used. More specifically, it was

[53] Cf. Website http://www.avnet.kuleuven.be/

primarily focused on quantitative information variables, such as news media and article title, publication date, poll subject and disclosed methodological poll information.

Table 8-2: Summarized coding instrument for the newspaper articles and television journal items about opinion polls

Variable	Coding
News media title & type	News media title and type were registered as follows: Television news: 1/ Public broadcasting channel *Eén* 2/ Commercial television channel *VTM* Newspapers: A) Quality papers: 3/ *De Standaard*, 4/ *De Morgen* B) Popular papers: 5/ *Het Laatste Nieuws*, 6/ *Het Nieuwsblad*
Publication date	Publication date of the news report was registered (DD/MM/YEAR)
Article title	Exact article title (headline) was copied (for television only if available)
Total number of words (newspaper); seconds (television journal)	Total number of words of the newspaper article text was counted; total number of seconds of the television news item was registered
Number of words of text parts (newspaper); seconds (television journal) of news item referring to polls	Number of words within the article text; number of seconds within the news item explicitly referring to opinion polls (results, methodology, interpretations) was counted
Type of article	Type of article was classified as 1/ news report, 2/ interview, 3/ opinion article, 4/ other: …
Page	The newspaper page on which the article was placed; the position of the television item in the entire journal was registered
Poll subject	Poll subject was categorized as 1/ electoral (voting intentions, popularity of candidates), 2/ general (other than 1), 3/ combined (both electoral and general)
Geographical poll range	Geographical poll range was derived from information in the article about the polled respondents: 1/ local, 2/ regional, 3/ national, 4/ international, 5/ unknown
Unique poll reported	From information in the article about the poll's characteristics, it was registered whether the article focused on 1/ a unique poll, 2/ a poll that had been previously focused on, or 3/ a non-specific poll
Methodological information	Disclosure per methodological aspect[54] was registered with a distinction between specific information (a/ name of polling institute, b/ name of sponsor, c/ definition of target population, d/ exact sample size, e/ description of sample procedure, f/ poll method, g/ exact fieldwork dates, h/ exact question wording) and less specific information (a-b/ some reference to a pollster, g/ some time indication, h/ some questionnaire information)

Additionally, for the extra explorations with the content analyzed data of 2009, the total number of words of the article (in seconds for television items) needed to be registered. Indeed, whereas in Chapter 2 the content analysis was only performed on those articles

[54] Based on the standards of disclosure stated by most of the following survey research organizations: ESOMAR/WAPOR, AAPOR, NCPP, CASRO, Febelmar (cf. Subsection 2.2.3.2.b).

that predominantly reported on polls (those in which at least 60 percent of the text referred to poll results), the present content analysis included all news reports with any reference to opinion polls, as this was necessary for the particular research aim of the natural field experiment to collect information about all poll publications. Therefore, the number of words (seconds) actually related to opinion polls (results, methodology, interpretations) within the news report were registered. For the newspapers, all selected articles were read by the researcher, the words related to polls were highlighted in the article text and subsequently counted by a text-processing program (i.e. Word). For the television items, all journals were watched by the researcher and the duration of the news items about polls, as well as the duration of the specific parts related to polls within these news items were registered in seconds, based on the displayed time intervals by the program that played the television journals. This information was necessary in order to compare the content analyzed data with the poll articles of 2004 which dominantly focused on polls, as well as to compare between television news and newspapers within 2009 for article focus (i.e. to classify poll articles as dominant poll focus, important poll theme, peripheral poll use or poll mention based on the percentage ratio of the number of words of the text parts about polls relative to the number of words of the entire article text; cf. Subsection 2.4.1.2.a). The coding instrument is summarized in Table 8-2.

Finally, in another data file, the substantive poll results disclosed in the news reports were saved per opinion poll, as well as the number of news reports that mentioned these poll results. Collecting this information was necessary, because it served as the basis on which particular survey questions were selected for the survey. In particular, it was used to select the issues for the opinion-questions, the polls for the exposure-question and specific poll results for the knowledge-question.

8.3.1.5. Intercoder reliability

Similar to Chapter 2 (cf. Subsection 2.3.4), the intercoder reliability was tested between two independent coders in order to evaluate the coding process (Krippendorff, 1980; 2004). Initially, the content analysis was performed by the researcher, after which a randomly selected sub-sample of the news media reports about polls was repeatedly coded by another coder who worked independently from the researcher. More specifically, a random selection procedure in Sas, version 9.1 (proc surveyselect) was used to draw a sub-sample

of 50 news reports from the original dataset of 466 news reports, which was about 10 percent of the dataset (10.7%) to be content analyzed again (Neuendorf, 2002). This random sub-sample was coded by a bachelor student in sociology. Because she had previously content analyzed the data reported in Chapter 2, not much additional training was required for the present content analysis. The main difference was the use of a shortened version of the earlier coding instrument, as well as the inclusion of television journal items besides newspaper articles. After a short additional explanation and discussion of coding examples (especially for television news), the data were independently coded by the student. While the initial content analysis was performed by the researcher between January and May of 2009, the repeated content analysis was conducted by the second coder in August of the same year.

In line with Chapter 2, two intercoder reliability indices were computed: the Cohen's Kappa (1960; 1968) by the frequency procedure in Sas (option 'agree') and the Krippendorff's alpha by using an online available macro ('KALPHA') written for Sas (Hayes & Krippendorff, 2007). These indices test intercoder reproducibility by taking into account agreement by chance between the coders (Hayes & Krippendorff, 2007; Tinsley & Weiss, 1975; Lombard et al., 2002; Banerjee et al., 1999). For more information about these measures and background of the intercoder reliability in general, see Chapter 2 (Subsection 2.3.4).

Table 8-3: Comparison between original dataset of news media reports (n=466) and random sub-sample within this dataset (n=50), for assessment of intercoder reliability

	Original dataset (n=464)		Random sample (n=50)	
Variable	%	(n)	%	(n)
Media-outlet				
Newspaper	82.76	(384)	82	(41)
Television	17.24	(80)	18	(9)
Sig. Test	$Chi^2(df=1)=.0099$; p= .9206			
Media-channel				
Eén	6.47	(30)	8	(4)
VTM	10.78	(50)	10	(5)
De Standaard	28.88	(134)	30	(15)
De Morgen	14.01	(65)	6	(3)
Het Laatste Nieuws	17.67	(82)	26	(13)
Het Nieuwsblad	22.2	(103)	20	(10)
Sig. Test	$Chi^2(df=5)=2.56$; p= .767			

First, the randomly selected sample of news reports to be repeatedly content analyzed was compared to the original dataset to evaluate the representativeness of the random sample to these data. This comparison was especially performed because of the fairly small number of news reports selected (n=50). Table 8-3 shows that the random sub-sample of news media reports to be repeatedly coded did not significantly differ from the universe data from which it was selected for the news media outlet (television or newspaper) and specific channel. It also shows that the sub-sample contained 9 television items and 41 newspaper articles to be coded again.

Table 8-4 presents the intercoder reliability measures of Cohen's Kappa and Krippendorff's alpha for each variable that was repeatedly coded by the researcher and the independent coder. Similar to Chapter 2, Table 8-4 refers to the kind of coding that was performed, namely registering a characteristic if it was present in a news report and/or coding that characteristic, using a standardized categorization. Table 8-4 shows that all variables repeatedly coded by the researcher and an independent coder had a reliability level of at least .92, which is generally considered a good intercoder reliability level (Lombard et al., 2002; Krippendorff, 2004, p. 429; de Boer, 1995). The independent coding was only used to evaluate the reliability of the coding performed by the researcher. In case of disagreement between the coders, no changes were made to the initial analysis of the researcher.

The next two sections provide information about the additional exploration of the content analyzed data about the poll publications in the Flemish newspapers and television news before the elections of 2009. In a first section, the poll publications in the Flemish news media were compared between 2004 and 2009 for identical newspapers and during a similar time period before the elections. In a second section, the data of 2009 were used to compare between newspaper and television items about opinion polls. More information about the classification of the variables used can be found in Chapter 2.

Table 8-4: Intercoder reliability indices Cohen's Kappa & Krippendorff's alpha for repeatedly content analyzed sub-sample of news media reports about polls (n=50)

Variable	(n)	Cohen's Kappa	Krippendorff's alpha
General information			
Coding of article type	50	1	1
Coding of poll subject	50	0.9467	0.9472
Coding of geographical poll range	50	0.9731	0.9734
Methodological disclosure			
Name of polling institute (explicit)			
Presence in article	50	0.9351	0.9357
Coding of methodological aspect	9	(1)	(1)
Name of sponsor (explicit)			
Presence in article	50	0.9216	0.9224
Coding of methodological aspect	7	(1)	(1)
Reference to pollster (less specific)			
Presence in article	50	1	1
Coding of methodological aspect	31	1	1
Definition of target population			
Presence in article	50	0.9571	0.9575
Coding of methodological aspect	18	1	1
Exact sample size			
Presence in article	50	1	1
Coding of methodological aspect	19	1	1
Sampling procedure information			
Presence in article	50	N/A	N/A
Coding of methodological aspect	0	N/A	N/A
Method of data collection			
Presence in article	50	1	1
Coding of methodological aspect	4	(1)	(1)
Fieldwork time indication			
Presence in article	50	1	1
Coding of methodological aspect	5	(1)	(1)
Questionnaire information			
Presence in article	50	1	1
Coding of methodological aspect	4	(1)	(1)

Note: N/A stands for 'not applicable', when the number of units judged was zero, and hence no intercoder reliability indices could be computed. The results between brackets refer to a computation of the intercoder reliability indices based on less than 10 news reports

8.3.1.6. Over-time comparison of identical newspaper articles in similar pre-electoral period 2004-2009

A first comparison was performed between the poll articles published in 2004 and 2009 in four identical newspaper titles (*De Standaard, De Morgen, Het Laatste Nieuws, Het Nieuwsblad*) during a similar pre-electoral period (between mid-January and the end of May), before the same type of elections in Flanders (regional and European elections held in

June). In particular, the frequency of poll publications, the article focus and poll subject, as well as the methodological disclosure was compared. Results of this comparison are summarized in Table 8-5.

Table 8-5: Comparison of poll articles between 2004 and 2009 for identical time period and newspaper titles

	2004 (n=310)		2009 (n=384)	
Articles with any reference to polls	%	(n)	%	(n)
Newspaper title				
(Quality) De Standaard	36.77	(114)	34.9	(134)
(Quality) De Morgen	24.84	(77)	16.93	(65)
(Popular) Het Laatste Nieuws	19.35	(60)	21.35	(82)
(Popular) Het Nieuwsblad	19.03	(59)	26.82	(103)
Article focus				
Dominant focus (60-100%)	53.55	(166)	65.63	(252)
Important theme (30-59%)	7.74	(24)	10.68	(41)
Peripheral use (10-29%)	22.9	(71)	13.8	(53)
Poll mention (0-9%)	15.81	(49)	9.9	(38)
	2004 (n=166)		2009 (n=252)	
Articles with polls as dominant focus	%	(n)	%	(n)
Poll subject				
Electoral	55.42	(92)	15.48	(39)
General	34.94	(58)	77.78	(196)
Combined (electoral & general)	9.64	(16)	6.75	(17)
Methodological disclosure index (0-7)	Mean	(SD)	Mean	(SD)
Strict measure	0.54	(0.99)	0.91	(0.95)
Less strict measure	1.28	(1.27)	1.87	(1.21)

From the 706 newspaper articles with any reference to opinion polls in 2004 (cf. Chapter 2; Subsection 2.3.2), 310 articles (43.91%) were published during the pre-electoral period between mid-January and the end of May. During a similar period before similar elections, 384 newspaper articles were published in 2009, which is an increase of 23.87 percent over five years. Such an increase could be expected, given the increase in absolute poll articles published in Flemish newspapers between 2000 and 2006 (cf. Subsection 2.4.1.1.a.). Though this volume was slightly lower in 2008, a year without elections, than 2006, a year which was characterized by an intensified use of opinion polls during the electoral campaign, the volume of poll news in newspapers still increased if a similar pre-electoral period was compared between 2004 and 2009. This over-time increase was in absolute

terms observed for all newspaper titles, except for the quality paper *De Morgen*. The comparison between the newspapers in Table 8-5 shows that especially the popular newspapers *Het Laatste Nieuws* and *Het Nieuwsblad* increased their absolute volume of published poll articles over time, in comparison with the quality newspapers.

In line with the previous analysis of newspaper articles between 2000 and 2006 (cf. Subsection 2.4.1.2.a.), most of the articles published during the pre-electoral periods of 2004 and 2009 dominantly focused on opinion polls. Table 8-5 shows that polls were even more frequently the dominant focus or important theme in 2009 than 2004, while polls were less frequently peripherally used or only mentioned in the newspaper articles. This indicates that if opinion polls were used in the news, they were substantially focused upon in the news reports. Regarding the topic of the polls reported, Table 8-5 indicates that in the pre-electoral period of 2009, far more poll articles focused on polls with a general topic, compared with 2004 in which more poll articles focused on polls with an electoral topic. For example, during the pre-electoral period of 2009 polls about diverse issues were published, whereas in 2004 most media-attention was spent on the strictly electoral polls (about voting intentions and popularity ratings of politicians; such as from *VRT-De Standaard* or *La Libre Belgique*[55]). Further inspection revealed that some polls about general issues received a lot of media-attention in the pre-electoral period of 2009, though they were not at all related to the elections. For example, a high number of poll reports and news items were published about a poll from the newspaper *Het Nieuwsblad* 'Het Treinrapport/The Train Report', which polled opinions on all Belgian train stations and about train travel in general, as well as a poll from the National Health Service Provider 'CM' about attitudes on staying in a rest home. Overall, it can be noted that some major events happened in the period under study, which received much attention from the news media

[55] For example, it was found that the same electoral poll from *La Libre Belgique* (published at 29/03/2004; 30/03/2009) was dominantly focused upon in 14 newspaper articles in 2004 (only taking into account the same four newspaper titles for the identical comparison with 2009) which was only focused upon in 4 newspaper articles in 2009. Similarly, the same electoral poll from *VRT-De Standaard* (published at 06/02/2004; 07/03/2009) was dominantly focused upon in 30 articles in 2004 and in only 12 articles in 2009. This difference in media-attention spent to a similar electoral poll (from the same pollster, about voting intentions and popularity ratings of politicians) illustrates the higher emphasis of the media on electoral poll news in 2004 than 2009.

and could also have attributed to the finding that more focus was put on general issues, rather than strictly electoral topics (i.e. voting intentions and popularity test of politicians)[56].

Finally, as Table 8-5 indicates, the average methodological index was slightly higher for 2009 than 2004. Although an overall decreasing trend in the disclosure of methodological information was previously found between 2000 and 2006 (cf. Subsection 2.4.4.1), the slight increase observed for 2009 may be explained by the higher number of news reports about polls with a general topic, for which it was previously observed that the methodological disclosure was generally more detailed than for electoral polls (cf. Subsection 2.4.4.6). More details about the disclosure of each methodological aspect can be found in Appendix E.

8.3.1.7. Comparison between newspaper articles and television items about opinion polls in 2009

In addition to the comparison between newspaper articles that appeared in the same pre-electoral period of 2004 and 2009, a comparison was performed between the news reports about polls that appeared in newspapers and television journals in the pre-electoral period of 2009. Table 8-6 shows the results from this comparison, as well as the marginal totals for both news media.

If the number of poll reports published during the pre-electoral period of 2009 was compared between newspapers and television, it was found that newspapers reported more frequently on opinion polls than television news. Indeed, Table 8-6 shows that in this period, on average 96 poll articles were published by each newspaper title (total of 384

[56] Some examples of events that received much media-attention during the pre-electoral period under study were the following: 20/01 inauguration of the new president Obama in the US; 23/01 drama in a day nursery in a Flemish town (Dendermonde) where Kim de Gelder stabbed several babies, and three persons were killed; 11/02 meeting of the shareholders of Fortis, an important Belgian bank in which the government became involved after the credit crisis; in March, the first victims of the swine/Mexican flu were reported, after which news about the disease increased and spread worldwide; 06/04 earthquake in Italy (l'Aquila) by which almost 300 people died, many were wounded and/or became homeless. Moreover, also the political discussion in the news media before the elections was sometimes dominated by particular incidents that received much media-attention, such as the 'Vijnck-affaire' (politician Vijnck of the LDD-party went over to Open VLD at 20 April and went back to LDD at 4 May; after which a contract was leaked in which Bart Somers of Open VLD promised Vijnck an eligible position on the party-list or a parliamentary salary, for which he publicly made his excuses) or the news at 18 April that Jean-Marie Dedecker of LDD hired a private detective to investigate secretly among others private affairs from politician De Gucht and his son, both from Open VLD.

divided by 4 newspaper titles), while on average 40 poll items appeared in each television journal (total of 80 divided by 2 television journals). This difference between the news media could be expected, based on previous research which had found that newspapers report more frequently on opinion polls than television news (Andersen, 2001; Smith & Verall, 1985). Regarding the type of media-channel, it was found that whereas the quality newspapers (*De Standaard* and *De Morgen*) published slightly more poll articles than the popular newspapers (*Het Laatste Nieuws* and *Het Nieuwsblad*), the commercial television channel (*VTM*) published far more poll reports than the public broadcasting channel (*Eén*). This suggests especially differences between the editor's decisions about the selection of poll news at the commercial television station, compared with the public broadcaster.

Table 8-6: Comparison of poll articles between newspapers and television news in 2009

	Newspapers (n=384)		Television news (n=80)		All news (n=464)	
Articles with any reference to polls	%	(n)	%	(n)	%	(n)
Media channel						
Quality newspaper / public television	51.82	(199)	37.50	(30)	49.35	(229)
Popular newspaper / commercial television	48.18	(185)	62.50	(50)	50.65	(235)
Article focus						
Dominant focus (60-100%)	65.63	(252)	63.75	(51)	65.30	(303)
Important theme (30-59%)	10.68	(41)	8.75	(7)	10.34	(48)
Peripheral use (10-29%)	13.80	(53)	13.75	(11)	13.79	(64)
Poll mention (0-9%)	9.90	(38)	13.75	(11)	10.56	(49)
	Newspapers (n=252)		Television news (n=51)		All news (n=303)	
Articles with polls as dominant focus	%	(n)	%	(n)	%	(n)
Poll subject						
Electoral	15.48	(39)	5.88	(3)	13.86	(42)
General	77.78	(196)	84.31	(43)	78.88	(239)
Combined (electoral & general)	6.75	(17)	9.80	(5)	7.26	(22)
Methodological disclosure index (0-7)	Mean	(SD)	Mean	(SD)	Mean	(SD)
Strict measure	0.91	(0.95)	0.27	(0.57)	0.81	(0.93)
Less strict measure	1.87	(1.21)	1.31	(0.91)	1.77	(1.18)

Regarding the focus of the news reports, Table 8-6 shows that both media types dominantly focused on opinion polls in their reports (at least 60 percent of the article text was spent on opinion polls). But television journals contained slightly more news reports in which polls were only briefly mentioned than newspapers. This is in line with general

expectations about differences in the media-format (i.e. more space in newspaper articles to focus on opinion polls than television items). Additionally, it can be seen from Table 8-6 that television news contained an even higher percentage of news reports about polls with a general topic compared with newspapers.

Furthermore, in line with general expectations and previous research (Andersen, 2001; Smith & Verall, 1985; de Vreese & Semetko, 2002), the average methodological index was lower for television news than for newspapers. This suggests that newspapers have more space available to disclose methodological details about opinion polls, compared with television journals. However, for both news media, the average disclosure of methodological aspects remained fairly low (cf. Appendix E for further differences between the methodological aspects in newspapers and television journals).

Finally, some information is provided about the number of unique polls published in the pre-electoral period of 2009 (not shown). It was found that in this period, 186 unique polls were mentioned in the analyzed news reports[57]. More opinion polls were only mentioned in newspapers (132; 70.97% of the polls), than merely on television (21; 11.29%), while some polls were mentioned both in newspapers and television journals (33; 17.74%). Thus, newspapers published more articles about polls, and about more diverse polls than the television journals. Furthermore, it was observed that media were involved, as commissioner and/or pollster, in 51 of the polls reported (30% of the unique polls for which some information about the pollster was disclosed in the news reports). Especially the print media was disclosed as commissioner and/or pollster of these unique polls (newspapers were involved for 22 of the unique polls and other print media, such as magazines, for 17 of the polls, while television was involved in 6 of the polls and newspapers together with television in 3 polls, while radio was involved in only 2 polls).

These additional explorations with the content analyzed data of the Flemish news media about poll publications in the pre-electoral period of 2009 in both newspapers and television news provided information supplementary to the content analyzed findings reported in Chapter 2. In particular, it provided more recent data about published poll

[57] To have a comparison point: in the same pre-electoral period, 51 polls were dominantly focused upon in 2004, while 94 polls were focused upon in 2009 (published in four identical newspapers, of which the articles spent at least 60 percent of the text on polls).

news, as well as additional information about television news items on opinion polls. The content analysis was subsequently used to design the survey questionnaire, and hence to select the issues and opinion polls for the natural field experiment. This is considered next.

8.4. Issue and poll selection: hinge between content analysis and survey design

The natural field experiment focused on three non-electoral, politically-relevant issues: political trust, immigration policy and Flemish independence. These issues were selected for different reasons. First of all, based on the information collected by the content analysis of news reports about polls (both newspaper articles and television news items), particular consideration was given to issues about which several opinion polls were conducted during the pre-electoral period under study and about which poll reports were published by different news media-channels at different time points. This was necessary in order to study natural exposure to specific polls published by the news media and knowledge of these poll results. Furthermore, priority was given to those issues about which at least one methodologically high-quality survey was published, which was representative of the general public. The inclusion of issues about which representative opinions were known provided important information about the opinions in the public prior to the survey, and hence, might serve as a kind of pretest from an external source. Finally, if different issues were eligible to be focused upon, reasons of consistency were used to select issues that had been studied before by the general survey data presented in Chapter 6 and/or the experiment on the provision of specific poll information reported in Chapter 7.

The first issue of political trust was selected to investigate more closely by the natural field experiment because various opinion polls about this topic were conducted during the pre-electoral period under study and several news reports about these polls were published by different media-channels. Accordingly, the issue was considered very topical in the news media before the elections of June 2009. The general opinion climate created by the news media based on the reported poll results was that trust in politics, and more general trust in institutions (especially banks) was very low and that it had never been lower before[58].

[58] Some examples of newspaper headlines about decreasing political trust: *Het Laatste Nieuws*, 21/03/2009, 'Nooit zo weinig vertrouwen in de politiek (Lowest level of trust in politics ever)'; *Het*

Therefore, the issue was depicted by the news media as very negative (i.e. low political trust before the elections). Although several of the polls published during the pre-electoral period of 2009 contained a question about the issue of political trust, it was particularly focused on two surveys published: the *European Social Survey* and a GfK-poll[59]. The *European Social Survey* was chosen because it was the only academically-based survey about the issue of political trust published in the news, of which the results can be assumed representative for the general public. In particular, the survey contained more than 1700 personal interviews of Belgians and applied a strict survey-protocol. Its results were published in two articles by two different newspapers during two days (20-21 March). The GfK-poll, on the other hand, was selected because it was the most recent opinion poll about the issue before the conduct of the survey. Accordingly, it could be expected that this most recent poll about political trust could be remembered more easily than the ones that had been published before. The poll from the research agency Gfk was conducted by telephone with 945 Belgian respondents. Its results were published in two articles by two different newspapers during two days (6-7 May).

The second issue of immigration policy was selected to study by the natural field experiment. This issue was studied previously by the general survey data (ESS-data; cf. Chapter 6), as well as in the specific experiment (provision of poll information; cf. Chapter 7), when the issue was not topical. Furthermore, during the pre-electoral period of 2009, two different large surveys were published by the news media about attitudes towards foreigners. The first survey published came from the academic Institute for Social and Political Opinion Research (ISPO) from the University of Leuven. The methodologically high-quality survey was representative of the Flemish voters, for which 1084 eligible Flemish persons were surveyed face-to-face. Its results were published in 10 news articles by all four newspapers under study during four days (26-29 January). The news reports

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Nieuwsblad, 17/04/2009, '85 procent vertrouwt politiek niet meer (85 percent does not trust politics anymore)'; *Eén*, 06/05/2009, 'Vertrouwen in politici en bankiers nooit lager (Trust in politicians and bankers has never been lower)'.

[59] The other opinion polls published about trust in institutions were: a pre-electoral poll from the newspaper *Het Laatste Nieuws* which contained one question about trust in the new government of Van Rompuy (published in January); a poll about the financial crisis ordered by the commercial television channel *VTM* which contained some questions about trust in banks and the stock market (published in February); a poll from the newspaper *De Standaard* about attitudes towards Europe, as well as a pre-electoral poll ordered by the news media *VRT* and *De Standaard* (both published in March) which both contained a question about trust in the Flemish and federal government; and a poll from the research agency Ipsos which polled trust in institutions (published in April).

particularly emphasized that Flemish people are anxious about Islam and that there has been an increase of 'islamophobia' in Flanders over the years[60]. The second survey published about this issue was ordered by the Centre for Equal Opportunities and Opposition to Racism (CGKR). This centre investigates issues of discrimination, migration and diversity in Belgium, about which they aim to raise awareness in society and make recommendations for the government. The specific survey about attitudes towards foreigners consisted of 1392 face-to-face interviews of Belgians. Its results were published in four newspaper articles by three of the four newspapers studied and in two television journal-items at the two television channels under consideration, during two days (20-21 March). The results were particularly interpreted in terms of (in)tolerance and racism by the news media[61]. Thus, the publications about these two surveys emphasized the (increasingly) negative attitudes towards foreigners among the general population.

Finally, the third issue selected for the natural field experiment was the independence of the Flemish region in Belgium. This issue was also studied previously by the general survey data when the issue was not so topical (cf. Chapter 6) and by the experiment when the issue was very topical (cf. Chapter 7). During the pre-electoral period of 2009, the issue could be considered as not very topical. Indeed, no opinion poll was entirely devoted to the issue, and only some polls contained a question that was related to this topic, or to the more general issue of state reform. For example, questions about this issue were included in the broadly-based social survey of the public broadcaster *Eén* ('Vlaanderen 09/Flanders 09'), which was mentioned in nine newspaper articles (in all four newspapers studied) and two television items (which appeared in one television journal) during 24 days (29 April-22 May); or in the voting-orientation test of the commercial television channel *VTM* ('De stem van Vlaanderen/the voice of Flanders'), which was reported in six news items, of which four newspaper articles (in three newspapers) and two television items (in one television journal)

[60] Some examples of newspaper headlines about the ISPO-survey: *De Standaard*, 26/01/2009, 'Islamofobie groeit in Vlaanderen (Islamophobia rises in Flanders)'; *Het Nieuwsblad*, 26/01/2009, 'Vlaming steeds banger van Islam (Fleming increasingly scared from Islam)'; *De Standaard*, 27/01/2009, 'Islamofobie schokt politici (Islamophobia shocks politicians)'; *De Morgen*, 27/01/2009, 'Vlaming voelt zich bedreigd door islam (Fleming feels threatened by Islam)'; *De Standaard*, 29/01/2009, 'Islamofobie en waar ze vandaan komt (Islamophobia and its origins)'.

[61] Some examples of news report headlines about the CGKR-survey: *Eén*, 20/03/2009, 'Drie op de tien Belgen intolerant (Three out of four Belgians intolerant)'; *De Standaard*, 21/03/2009, 'Belgen zijn voorwaardelijk tolerant (Belgians are conditionally tolerant)'; *De Morgen*, 21/03/2009, 'Tien procent Belgen is volbloed racist (Ten percent of the Belgians is a true racist)'.

during 12 days (7-18 May). However, none of the news reports about these polls solely focused on the Flemish independence, or had a headline related to this issue. Therefore, it could be considered an issue about which less poll news was published than the other issues selected. However, the inclusion of such a topic was considered important for comparison reasons.

8.5. Survey information

Information about poll publications obtained by the content analysis of newspaper articles and television news items about polls was used to design the survey which was part of the quasi-experimental research design (cf. Table 8-1). This survey, in turn, was used to study poll effects on opinions further, in addition to the findings reported in Chapters 6 and 7.

Similar to the analysis of general (ESS-)survey data in Chapter 6, interrelationships between exposure (to specific opinion polls instead of general news media), and opinions (personal opinions and perceptions of collective opinion) were investigated first. For this, the same a priori model developed in Chapter 6 was used, as well as the same path analytic research technique, but instead of general exposure-indicators, specific variables were used in the model tests. In particular, instead of general news media exposure and general poll attention, specific poll exposure and knowledge of specific opinion polls was used. Furthermore, analogous to the controlled experiment of Chapter 7, differences in opinions (personal opinions and perceptions of collective opinion) were tested between a quasi-experimental and –control group. In addition to effects on these opinions, between-group differences in knowledge about poll results were investigated. In the next subections, first, information about the data collection and sample is provided, after which the classification of the respondents into the quasi-experimental and –control groups is presented, as well as the weighting procedures applied and the variables used for the analyses.

8.5.1. Data collection and sample information

The survey data were collected through an online access panel survey. Put differently, the survey was conducted online with a sample of previously recruited panel members. In contrast to previous studies reported in this dissertation (cf. Part I, Chapter 4; Part II,

Chapter 6), the online access panel of the market research bureau '*Significant*' was used, instead of '*iVOX*'. Whereas the panel of *iVOX* is currently composed of over 100.000 panel members, the panel of *Significant* contains about 25.000 potential respondents. Both research agencies recruit their panel members through different channels, both online and offline in order to include also less frequent users of the Internet and avoid possible bias associated with panel recruitment from a single source. More specifically, the research agency *Significant* uses multiple off line recruitment sources, such as inviting respondents to become panelists by telephone and face-to-face surveys, besides online recruitment via Websites and invitations based on e-mail records. Similar to the panel of *iVOX*, the panel of *Significant* can be defined as 'open', since people can self-select themselves to become a panel member (Stenbjerre & Laugesen, 2005). Panel members are recruited by a two-stage or double opt-in process, since panelists receive an e-mail after completing an initial registration survey, in which they are invited to confirm their registration and fill out an intake questionnaire, which asks additional questions about their background profile. To update this background information about the panelists, the intake questionnaire is renewed each year. Thus, the panel is actively managed, as it is also automatically cleaned, based on hard bounces (e.g. refused e-mails based on incorrect e-mail addresses) and deactivated respondents[62]. Furthermore, a series of participation rules are used to ensure that panelists can only be selected once for a survey in any seven day period and that they can be invited to participate in surveys up to a maximum of 24 surveys a year (or 2 per month). Finally, a particular incentive scheme is applied for the panel members to reward their membership by 'cash' incentives which can be disbursed by value vouchers for online or offline purchases, as well as charitable donations.

Similar to the previous samples drawn from an online access panel in this dissertation, the agency's information database of previously recruited panel members was used to select a stratified sample of adult panel members from 18 years and older, living in the Flemish region of Belgium. The sample was stratified according to gender, age and education, based on census information. Panel members were invited by e-mail to participate in the online survey, which was conducted between May 25 and June 4, 2009 (before the

[62] According to the ESOMAR-definition, an 'active' panel member is 'someone who has registered to join the panel, replied to a survey invitation or otherwise indicated that they wish to remain a panel member in the last 12 months'; based on this definition 99% of the Significant-panel is classified as 'active' (Significant GfK, 2008).

elections of June 7, 2009). No reminders were sent. In total, 4000 panel members were invited to participate, of which 2001 respondents (50.03%[63]) completed the survey; 270 persons (6.75%) responded but did not complete the survey; 1396 persons (34.90%) did not respond and 333 respondents (8.33%) were screened out due to a premature ending of the survey by the automatic system of the research organization at the moment that the ordered sample size (n=1500) was achieved. However, as it was important to let people respond to the survey over a longer period, the survey was made available again as soon as possible (for this reason, however, the survey was not available between May 26 from 5 p.m. to May 27 at 2 p.m.). After checks of data-quality by the research company (such as the inclusion of only Flemish people of 18 years and older), the sample actually delivered consisted of 1990 interviews (49.75% of the initially invited panel members). The average time of filling out the survey was 13.62 minutes (SD=7.66).

Similar to Chapter 4 in Part I, the rapidity with which survey data are collected through an online access panel can be illustrated by information about the response behaviour. During the first evening that the survey was made available online (Monday May 25 at 5.30 p.m.), already 877 surveys were completed (44.07% of the actual sample), which increased to 1541 completed interviews after the first twenty-four hours (77.44% of the actual sample). In the next three days, another 300 interviews (15.08% of the actual sample) were completed and in the final six days that the survey was available, the average completion rate was 1.44 percent (of the actual sample).

8.5.2. Classification of quasi-experimental and quasi-control group

Based on the survey data collected, individual responses about the natural exposure to specific opinion polls that previously appeared in the news were used to post-hoc classify the respondents into a quasi-experimental and a quasi-control group. More specifically, the survey contained questions about five opinion polls published about the issues under study (cf. Subsection 8.4 for issue and poll selection; cf. Appendix E for question wordings). These polls were the following: for the issue of political trust: *European Social Survey* on general attitudes and a poll from GfK about trust in professions; for the issue of

[63] This figure was calculated using AAPOR's response rate definition RR1 (AAPOR, 2009). As aforementioned (cf. Subsection 4.2.6.4.b), response rates of online access panels should be considered as 'completion rates'.

immigration policy: ISPO-research about islamophobia and a CGKR-survey about attitudes towards foreigners; for the issue of Flemish independence: social survey of *VRT* 'Vlaanderen09' on political topics (which also included the topic of political trust). Survey responses about exposure to these five opinion polls (in terms of certainly having noticed these particular polls in the news) were used to classify respondents into the quasi-experimental group if they reported to be certainly exposed to at least one out of the five opinion polls that were related to the issues under study and of which results had been published previously by the Flemish news media; while respondents were classified into the quasi-control group if they reported not to have been exposed to any of these five specific polls, or did not remember it. Although the quasi-control group might include people who were exposed to the polls but did not remember it, it was opted to include people in the quasi-experimental group only if they certainly remembered to be actually exposed to the poll information. Although in this way it is more certain that people who remembered the opinion polls were actually exposed to the poll news, the self-reports might be subject to reporting errors.

Based on the classification described in this section, the quasi-experimental group consisted of 863 respondents (45.37%) and the quasi-control group consisted of 1039 respondents (54.63% of the entire sample). Respondents with missing values for the five opinion polls were not included in one of these groups (88 persons).

8.5.3. Weighting

As a standard check of representativeness, the effective online panel sample was compared to the target population. To this end, Table 8-7 below presents the distributions of the basic background characteristics age, gender and education, for the effective sample (n=1990) and for the population of adult persons from 18 years and older, living in the Flemish region of Belgium (Source: *Labour Force Survey* / LFS, 2005).

As can be seen from Table 8-7, especially the oldest age group of 65 years and older was significantly underrepresented in the online access panel sample, compared with the population. The group of people between 45 and 64 years old, on the other hand, were significantly overrepresented in the sample. Regarding the distribution of gender, no significant differences were found between sample and population. In contrast, the

distribution of education in the online panel sample significantly differed from the population. More specifically, lower educated persons (with at least an educational degree of lower secondary school) were underrepresented in the online panel sample. The similarities in gender and differences in age between the online access panel sample and population figures could be expected based on previous findings, while significant differences in education could be expected, but were not previously observed for the *iVOX*-panel samples reported (cf. Part I, Chapter 4; Part II, Chapter 7).

Table 8-7: Comparison of basic background characteristics between effective sample (n=1990) and population (LFS=2005)

	Sample (n=1990)		Population (n=4848643)	
Characteristic	%	(n)	%	(n)
Age				
18-24	11.11	(221)	10.26	(497600)
25-34	17.29	(344)	15.80	(766149)
35-44	20.20	(402)	19.26	(934037)
45-54	22.21	(442)	18.06	(875557)
55-64	17.44	(347)	14.34	(695246)
65+	11.76	(234)	22.28	(1080053)
Sig.Test	$Chi^2(df=5)=81.63$; p<.0001***			
Gender				
Male	47.69	(949)	48.88	(2370069)
Female	52.31	(1041)	51.12	(2478574)
Sig.Test	$Chi^2(df=1)=.57$; p=.4516			
Education				
Lower secondary	24.47	(476)	40.87	(1981485)
Higher secondary	40.98	(797)	34.99	(1696544)
Higher education	34.55	(672)	24.14	(1170615)
Sig.Test	$Chi^2(df=2)=126.35$; p<.0001***			

Note: ***p<.001

Since the sample significantly differed from the population regarding age and education, it could be suggested to weight the data. However, analogous to the argumentation in Chapter 7 and based on the observations of Chapter 4 (cf. Subsection 4.2.6.5), it is argued not to weight the online access panel data to the population, because weighting procedures based on basic background characteristics do not seem to adjust these online panel data in a way that they become comparable to a traditionally collected representative survey. Moreover, because of the twofold focus of the natural field experiment on the study of path relationships (between poll exposure and opinions) on the one hand, and the

comparison of opinions and knowledge of poll results between the quasi-experimental and quasi-control groups on the other hand, representativeness of the online panel data to the general public was not the main concern. Instead, similarity between the quasi-experimental groups was considered more important, because a natural experiment lacks a random assignment process. Therefore, the online panel data was not weighted to represent the general population of Flemish persons of 18 years and older. Instead, weights were applied in order to make the quasi-experimental groups comparable to each other based on background characteristics.

Initial differences between quasi-experimental and -control groups can be accounted for by applying propensity score adjustment weights. The use of propensity score adjustment was illustrated in Chapter 4 (Subsection 4.2.6.4.e.), though in a different context, namely to compare online panel data to representative survey data for the general public. But here, the quasi-experimental groups are propensity score adjusted in order to compare them among each other, rather than with the general population. A propensity score is the conditional probability that a person will be in one condition (quasi-experimental group) rather than in another (quasi-control group), given a set of observed covariates used to predict the person's condition. This propensity score is unknown in a quasi-experiment, and hence needs to be estimated based on individual characteristics (Rosenbaum & Rubin, 1983; 1984; D'Agostino & Rubin, 2000; Yanovitzky et al., 2005; Fraas et al., 2006).

Table 8-8: Comparison of unweighted basic background characteristics age, gender and education between the quasi-experimental (n=863) and quasi-control group (n=1039)

	Unweighted		
Age	Mean	(SD)	
Q-Control	43.14	(14.44)	
Q-Experimental	47.22	(15.33)	
Chi^2 (df); p	-5.98 (1900); <.0001***		
Gender	%Male	%Female	
Q-Control	40.13	59.87	
Q-Experimental	58.75	41.25	
Chi^2 (df); p	65.39 (1); <.0001***		
Education	%LSE	%HSE	%HE
Q-Control	26.92	43.81	29.27
Q-Experimental	20.19	37.66	42.15
Chi^2 (df); p	34.85 (2); <.0001***		

Note: LSE stands for Lower Secondary Education; HSE for Higher Secondary Education and HE for Higher Education; ***p<.0001

Based on the natural exposure to opinion polls previously published in the Flemish news media, respondents were classified into a quasi-experimental and –control group (cf. previous section for this classification). These quasi-experimental groups are compared for the basic background characteristics age, gender and education in Table 8-8. As can be seen from the unweighted results in Table 8-8, the distributions of age, gender and education significantly differed between the quasi-experimental and –control groups. More specifically, the quasi-experimental group consisted of significantly more men, higher-educated respondents and older people compared with the quasi-control group. Particularly the higher education in the group of people who reported to be exposed to published poll information might be expected. This indicates initial imbalance between the groups, and hence implies that weighting is necessary to make them similar for basic background characteristics.

To this end, firstly, a set of covariates needs to be a priori selected which could be related to the classification of the subgroups. In the present case, the basic background characteristics age, gender and education were selected as the most fundamental variables on which the subgroups should be similar. Secondly, propensity scores have to be estimated for each of the respondents, using the selected covariates (Yanovitzky et al., 2005; Fraas et al., 2006). For this, a logistic regression was performed in which the quasi-experimental group-variable (quasi-experimental or –control group) was the dependent variable and the covariates age, gender and education were the independent variables (Rosenbaum & Rubin, 1983; 1984; D'Agostino & Rubin, 2000). Table 8-9 shows the results of this logistic regression.

Table 8-9: Logistic regression of the probability of being in the quasi-experimental group (n=1865)

Variables		ß	P-value	Odds Ratio	95% Wald CL
Age	(Continuous)	0.016	***	1.016	[1.009 - 1.022]
Gender	Female (Ref: Male)	-0.668	***	0.513	[0.424 - 0.620]
Education	Higher secondary	0.257	*	2.070	[1.608 - 2.665]
	Higher education (Ref: Lower secondary)	0.727	***	1.293	[1.010 - 1.656]
Nagelkerke R^2=0.0826					

Note: * p <.05; ***p<.0001

As can be seen from Table 8-9, the background characteristics age, gender and education had a significant effect on the probability of being in the quasi-experimental group (compared with being in the quasi-control group). It can be corrected for this, by stratifying the propensity scores in five or ten groups with an equal number of respondents in the categories (Yanovitzky et al., 2005). It was chosen to stratify the propensities in five groups. This propensity distribution was then made equal between the quasi-experimental and –control groups by applying weighting coefficients to the quasi-control group. These propensity score weighting coefficients ranged from .44 to 2.31 with an average of 1.13. In further analyses the weighted quasi-control group can be compared to the unweighted quasi-experimental group (Fraas et al., 2006).

The propensity score adjusted (PSA) basic background characteristics age, gender and education in Table 8-10 show that the propensity score adjustment weighting indeed removed the initial imbalance for the used covariates (age, gender and education), since the quasi-experimental and –control group did not significantly differ anymore on these variables after weighting.

Table 8-10: Comparison of propensity score adjusted (PSA) basic background characteristics age, gender and education between the quasi-experimental (n=863) and quasi-control group (n=1039)

	PSA weighted on age, gender, education		
Age	Mean	(SD)	
Q-Control	46.79	(14.69)	
Q-Experimental	47.22	(15.33)	
Chi^2 (df); p	-.63 (1879); .5303		
Gender	%Male	%Female	
Q-Control	58.15	41.85	
Q-Experimental	58.75	41.25	
Chi^2 (df); p	.07 (1); .7919		
Education	%LSE	%HSE	%HE
Q-Control	19.78	38.80	41.43
Q-Experimental	20.19	37.66	42.15
Chi^2 (df); p	.25 (2); .8814		

Note: LSE stands for Lower Secondary Education; HSE for Higher Secondary Education and HE for Higher Education

After this propensity score adjustment for age, gender and education, the quasi-experimental and –control groups were compared for their degree of political interest and news media use. Even after weighting, it was found that these groups significantly differed for these variables. In particular, the quasi-experimental group showed a higher average of political interest on a four-point scale (M=2.86; SD=0.73) than the quasi-control group (M=2.34; SD=0.75) which was statistically significant (t(df=1865)=-15.30*** p<.001). Additionally, on a scale from 0 to 7, the quasi-experimental group watched statistically (t(df=1870)=-10.15*** p<.001) more frequently the news on television (M=2.41; SD=1.15) than the quasi-control group (M=1.82; SD=1.35) and the quasi-experimental group read statistically (t(df=1873)=-8.61*** p<.001) more frequently about politics in newspapers (M=1.50; SD=1.22) than the quasi-control group (M=1.05; SD=1.05). These differences indicate that the distinction between the quasi-experimental groups based on exposure to poll news was also interrelated with differences in news media use and political interest. This can be generally expected, and should be remembered in the presentation of the results.

8.5.4. Variables used

This section presents the variables used for the path analysis and between-group comparisons. Percentages, means and standard deviations in this section are presented for the whole sample without distinguishing between the quasi-experimental groups, and hence without applying the propensity score adjustment. The exact question wordings can be found in Appendix E.

8.5.4.1. Opinions: personal opinions and perceptions of collective opinion

The personal opinions were used as the main dependent variable in the path analysis, as well as for the comparisons between the quasi-experimental and quasi-control group, while the perceptions of collective opinion were considered as an independent variable in the between-group comparison but as a mediator of effects from poll exposure on personal opinions in the path analysis. The personal opinions were measured as the degree to which people agreed with an issue (by five or eleven-point scales), while the perceptions of collective opinion were measured by percentage scales (between 0 and 100%; no answer categories were provided) on which people could estimate the percentage of other Flemish or Belgian people agreeing with the same issue. These personal opinions and perceptions

of collective opinion were surveyed on three particular topics: political trust, immigration policy and independence of Flanders. The question wordings used for the opinion-measurements were especially based on wordings used in opinion polls of which results were previously published in Flemish news reports[64].

Regarding the first topic, political trust, several personal opinion-items were surveyed about personal trust in institutions, measured by eleven-point scales ranging from (0=) no trust at all to (10=) complete trust. The wording of the questions of the *European Social Survey* (2009) were used, as results about political trust from this academically-based survey were previously published by the Flemish news media (cf. Subsection 8.4; Issue and poll selection). On the basis of four of these items (namely about trust in the Flemish government, the Belgian government, politicians and political parties), a mean scale was constructed of which higher values indicate a higher political trust (M=4.12; SD=1.99; Cronbach's alpha=.90). The average perception of collective opinion about political trust, on the other hand, was that 38.65 percent (SD=14.17) of other Belgian persons has trust in politicians. The low averages for both personal opinions and perceptions of collective opinion suggest that people did not have much trust in politics at the moment of the survey.

About the second topic, immigration policy, several personal opinion-items were included in the questionnaire about attitudes towards foreigners, which were used both by the academically-based ISPO-survey of the KULeuven (Billiet & Swyngedouw, 2009) and the CGKR-poll performed by a commercial research agency (Ipsos; Thiebaut et al., 2009), of which the results were published in the news media during the period content analyzed before the conduct of the survey. Based on eight items about attitudes towards migrants (such as 'Migrants are generally not to be trusted'; 'Migrants contribute to the welfare of our country'), measured by five-point response scales (from 1=strongly disagree, to 5=strongly agree), a mean scale was constructed, of which higher values indicate more negative attitudes towards migrants (M=2.97; SD=.95; Cronbach's alpha=.93). The perception of collective opinion was that on average 53.33 percent (SD=17.53) of other Belgians would agree with the specific statement that migrants come here to take

[64] This implies that some question wordings referred to Belgians, and others to Flemings, according to the original question wordings used in the opinion polls.

advantage of the social security system. Thus, both the average personal opinion and perception of collective opinion towards migrants were situated in the middle of the response scales.

Finally, concerning the third topic, the Flemish independence, five personal opinion-items were surveyed (e.g. 'Flanders must become independent'; 'It is best not to split Belgium'), using five-point scales (from 1=strongly disagree, to 5=strongly agree). As this issue was not frequently polled by others during the period of study, only one item was used that was previously polled by the broadly-based social survey of the public broadcaster *Eén* ('Vlaanderen 09/Flanders 09'; cf. Why5Research, 2009), namely that 'State reform is not important, politicians should better be occupied with the real problems of the people'. Based on the five items about Flemish independence, a mean scale was constructed, of which higher values indicate more favourable opinions for a Flemish independence (M=2.84; SD=.78; Cronbach's alpha=.64). The perception of collective opinion, on the other hand, was that 40.17 percent (SD=16.53) of the other Flemish persons would be for the Flemish independence. Thus, the personal opinions on the independence of Flanders were on average most frequently in the category 'neither agree, nor disagree', while the perceptions of collective opinion indicate that less than half of the Flemings were considered to be in favour of the independence.

8.5.4.2. Poll exposure

The natural exposure to opinion polls that previously appeared in the news media was used as the basis on which the quasi-experimental group was distinguished from the quasi-control group (cf. Subsection 8.5.2). The content analysis of newspaper articles and television news about polls was used to select the items about poll exposure to be included in the survey questionnaire. The name and/or sponsor of eleven different opinion polls were provided to the respondents, depending on how they were actually named in the news media. Five of these opinion polls were in particular related to the issues on which the quasi-experiment focused (cf. Subsection 8.4). Response categories for the poll items were certainly, maybe or not noticed in the media in the previous months. Based on the survey responses about exposure to these five polls, respondents were classified into the quasi-experimental group if they reported to be certainly exposed to at least one out of five

of these polls; while respondents were classified into the quasi-control group if they reported not to have been exposed to any of these five specific polls, or did not remember it.

Apart from the five opinion polls used to distinguish the quasi-experimental from the quasi-control group, the survey items about specific poll exposure contained references to four other opinion polls published during the pre-electoral period of 2009 that were unrelated to the issues studied[65]. Similar to the controlled experiment presented in Chapter 7, the inclusion of different poll references may divert respondents' attention from the experimental research purpose.

Furthermore, from the eleven opinion polls that were included in the questionnaire to measure poll exposure, two were non-existent polls that did not previously appear in the news media. The first was a mock poll about the youth's satisfaction concerning extracurricular sports activities that was said to come from the umbrella society of Flemish sporting clubs. Only four percent of the respondents reported that they certainly noticed this opinion poll in the media and 16 percent thought they had maybe noticed it, while such poll had not been published before in the news media. A second mock poll included in the questionnaire was about the level of acceptance for euthanasia with heavily demented patients, ordered by the non-existing society of care for the elderly. Up to 29 percent of the respondents reported to have certainly noticed this opinion poll before, and another 32 percent were not certain about it. Although such a fairly high percentage of respondents noticing non-existent polls could compromise the findings, it should be noted that the issue of the latter poll had been covered in the news media recently before the survey, because of a sick demented patient that wished to have euthanasia but was not allowed to receive it. The observation that one mock poll about a highly topical issue was noticed more often than another mock poll about a non-topical issue might indicate that people may not accurately distinguish poll publications from general news media content about an issue.

[65] These other polls were: two polls about attitudes towards the financial crisis, one from the *VRT*-news and one from the commercial research agency *iVOX*; and two polls about opinions towards rest homes, from the social service providers 'CM' and 'Socialistische Ziekenfonds' which produced these polls independently from each other.

8.5.4.3. Knowledge of poll results

Knowledge of poll results that were previously published in the news media were used as another independent variable included in the path analysis and used as a dependent variable in the between-group comparisons. Based on the content analysis of poll publications, twelve knowledge items about specific poll results were included in the questionnaire for which respondents were asked to estimate the correct poll result that previously appeared in the media. Four response categories were provided (0-24%; 25-49%; 50-74%; 75-100%). For example, it was asked to estimate the 'percentage of Flemish people that are for a smoking ban in all catering establishments' (which was reported in the media as 64% according to the broadly-based social survey 'Vlaanderen 09/Flanders 09 of the public broadcaster *Eén*). Based on the correctly estimated responses for the twelve knowledge items, an index of knowledge about poll results was constructed, which could range from 0 (none of the 12 knowledge items about opinion polls was correctly answered) to 12 (all of the 12 knowledge items about polls were correctly answered). The mean of this index was 3.12 (SD=2.02) items about poll results correctly estimated. This figure is rather low, compared to a study of Lavrakas et al. (1991) who observed that almost all respondents correctly knew the poll results previously published, though this study focused on electoral polls. This indicates that knowledge of results from polls about a general issue might be less accurately estimated.

8.5.4.4. Political interest

Political interest was measured by a four-point scale on which people could indicate their degree of interest in politics in general (from 1=very interested in politics, to 4=not at all interested; reverse coded: the higher the scores, the higher the interest in politics; M=2.47; SD=.84). Almost half of the respondents reported to be not at all, or hardly interested in politics (47.6%). Only 8 percent of the respondents said that they were very interested in politics. This fairly low degree of political interest was similar to the *European Social Survey* data, reported in Chapter 6 (Subsection 6.3.3.4).

8.6. Effects from exposure to poll publications on opinions in a natural field experiment

Based on the content analyzed information about the specific opinion polls published in the pre-electoral period of 2009, the survey focused on three issues in particular: political trust, immigration policy and Flemish independence (cf. Subsection 8.4). The findings about effects from exposure to poll publications on opinions are reported in two subsections, containing two different types of analysis. In a first subsection, the interrelationships between exposure to specific poll news, knowledge of poll results and opinions are further investigated by path analysis (which builds further on the findings presented in Chapter 6). In a second subsection, differences in knowledge of poll results and opinions are tested between a quasi-experimental and quasi-control group to gain additional insight into effects from exposure to specific opinion polls in a natural setting (which builds further on the findings presented in Chapter 7).

8.6.1. Interrelationships between exposure, knowledge and opinions

This first subsection presents bivariate correlations between the key variables in the a priori model developed in Chapter 6, after which the results of the path analytic model are discussed. Whereas previously exposure to general news media and general attention to opinion polls in the news were used as the main independent variables that might influence opinions, the present chapter focuses on exposure to specific opinion polls actually published by the news media and specific knowledge about opinion poll results.

8.6.1.1. Bivariate relationships

Before the path analysis was performed, the model expectations (cf. Subsection 8.2.1) were first explored at the bivariate level by (Pearson) correlations between the main variables under study, using the specific indicators of poll exposure and knowledge of poll results. These findings are compared with those of the *European Social Survey* (ESS) reported in Chapter 6, in which general indicators of news media exposure and poll attention were used.

The first and second expectation in the model about effects from news media exposure on personal opinions (Path 1; depicted in Figure 8-1) and perceptions of collective opinion

(Path 2) were explored at the bivariate level. Whereas previously the ESS-data did only show significant bivariate correlations between news media exposure and personal opinions for the issue of Flemish independence, the online panel data showed significant correlations between poll exposure and personal opinions for the issues of political trust (r=.05* p<.05) and immigration policy (r=-.09*** p<.001), though not for the issue of Flemish independence (r=.04). These issues for which a significant bivariate correlation between poll exposure and personal opinions was found (political trust and immigration policy) were topical issues in the pre-electoral period before the elections of June 2009 and several opinion polls were published about them, while the issue of Flemish independence was less topical at that time and no particular poll was entirely devoted to the topic (cf. Subsection 8.4). This might have led to differences in the observed findings between the issues. The correlations between poll exposure and the perceptions of collective opinion, on the other hand, did not reach significance (at the 5 percentage alpha level) when the specific indicator of poll exposure, instead of the general indicator of news media exposure was used (for the issue of immigration policy: r=-.03; political trust: r=-.04† p<.10; Flemish independence: r=-.02).

Because of the expectation of an indirect effect from poll exposure on personal opinions through perceptions of collective opinion, a path was tested from perceptions of collective opinion on personal opinions (Path 3). Similar to the ESS-results (cf. Chapter 6; Subsection 6.4.1), significant (p<.001) bivariate correlations between these personal opinions and perceptions of collective opinion were observed for the three issues under consideration. For these three issues a positive sign was observed, so the higher the perceived collective support for an issue, the higher the personal support for that issue. Whereas previously a moderate relation was found, the online panel data showed somewhat stronger relations (for political trust r=.47*** p<.001; immigration policy r=.46*** p<.001; Flemish independence r=.43*** p<.001).

Regarding the fourth expectation in the path model about effects from knowledge about poll results on perceptions of collective opinion (Path 4), it was found that whereas the ESS-data generally did not show significant correlations between poll attention and opinions at the bivariate level, the online panel data did show significant correlations between knowledge of poll results and the perceptions of collective opinion for the three

issues (about political trust r=-.07** p<.01; immigration policy r=.08*** p<.001; Flemish independence r=.07*** p<.001). In contrast, knowledge of poll results did not show significant correlations with the personal opinions on any of the issues (about political trust r=-.03; immigration policy r=.02; Flemish independence r=.04).

Additionally, about the bivariate interrelations among news media, poll attention and political interest, similar results were observed in the online access panel when the specific indicators of poll exposure and knowledge of poll results were used, compared with the previous ESS-findings. As could be expected and similar to the ESS-figures, a significant positive correlation was observed between poll exposure and political interest (Path 5; r=.39*** p<.001). Furthermore, in line with general expectations and previous results of the ESS-survey, a positive significant relation was observed between poll exposure and knowledge of poll results (Path 6; r=.20*** p<.001). Thus, a higher frequency of exposure to opinion polls was found to be related with a higher degree of knowledge about the specific poll results previously published in the news media. Additionally, in line with the ESS-data, significant positive associations were found between political interest and knowledge of poll results (Path 7; r=.13*** p<.001).

Finally, it was found that political interest was related with the personal opinions (Path 8; for political trust r=.26*** p<.001; immigration policy r=-.20*** p<.001; Flemish independence r=.11*** p<.001), as well as with the perceptions of collective opinion for two issues (Path 9; for political trust r=0; immigration policy r=-.14*** p<.001; Flemish independence r=-.05* p<.05).

8.6.1.2. Path analysis

Whereas the so-far presented correlations provided information about the bivariate relationships between the variables under study, this section discusses the results of the path analysis, which is a simultaneous investigation of the different interrelations by multiple regressions. In a first stage, the a priori model developed and applied to the ESS-data in Chapter 6 was tested again with the online access panel data, which contained specific indicators of exposure and attention. More specifically, instead of general news media exposure and general poll attention, a specific index of exposure to actually published opinion polls was used, as well as a specific index of knowledge about poll results to test

the model. It has to be noted that only the specificity of the measured indicators was changed, but that the arrows pictured in the model, and hence the a priori expectations to be tested remained unchanged (cf. Figure 8-1). Similar to the previously performed path analyses, the direct and indirect effects from exposure to poll publications on opinions, the relationship between perceptions of collective opinion and personal opinions, as well as the interrelations between political interest, poll exposure and knowledge of poll results were simultaneously studied for the three issues under consideration (political trust, immigration policy, Flemish independence).

Before the figures of the decomposed effects from the path analyses are discussed with their similarities and differences compared with the ESS-findings reported in Chapter 6, the fit indices for the overall model tests are presented in Table 8-11. If the a priori model was applied to the online panel data with the specific indicators of exposure to opinion polls and knowledge of poll results, good model fit indices were observed (GFI, AGFI and NFI higher than .99; RMSEA lower than .05 and insignificant Chi^2-tests; Kline, 2005). This was similar to the models tested by the ESS-data containing general variables of media exposure and poll attention, though it should be noted again that these path models were almost saturated with one degree of freedom. Furthermore, values for the Mardia's multivariate kurtosis did not show violations of the multivariate normality (for political trust=1.91; immigration policy=.35 ; for independence of Flanders=1.16), and since the highest bivariate correlation between independent variables was .39 between political interest and poll exposure, there were no problems of multicollinearity.

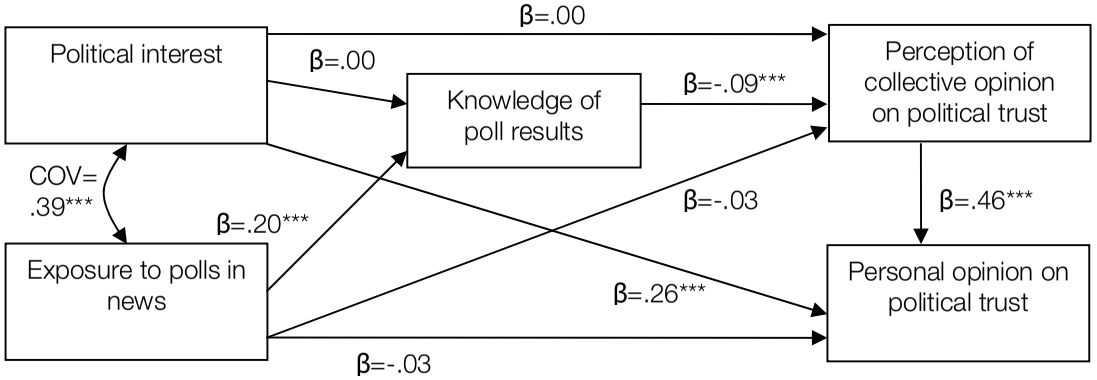
Table 8-11: Model fit indices for three issues (model with specific indicators of exposure to opinion polls and knowledge of poll results)

Fit indices for the overall model test	Good fit	Political trust	Immigration policy	Independence of Flanders
Goodness-of-fit index (GFI)	> .90	0.999	1	1
Adjusted goodness-of-fit index (AGFI)	> .90	0.993	0.999	0.999
Normal fit index of Bentler & Bonett (NFI)	> .90	0.998	1	0.999
Root mean square error of approximation (RMSEA)	<.05	0.023	0	0
Chi^2 value (df); p (H_0=good fit)	p > .05	1.99 (1); .1586	0.04 (1); .8416	0.14 (1); .7131

The standardized path coefficients of the path analyses performed with the specific indicators are depicted in Figure 8-2 for political trust, Figure 8-3 for immigration policy and Figure 8-4 for Flemish independence, and more information about the decomposition of the effects in direct, indirect and total effects is presented in Table 8-12. As can be seen from the figures, the R-square values for the personal opinions were somewhat higher (20-27%) than for the previously reported ESS-findings (4-15%). This might indicate that the use of the specific indicators for poll exposure and knowledge of poll results explained slightly more variance in the personal opinions than the use of general indicators of news media exposure and poll attention. The results of these path models are presented in more detail.

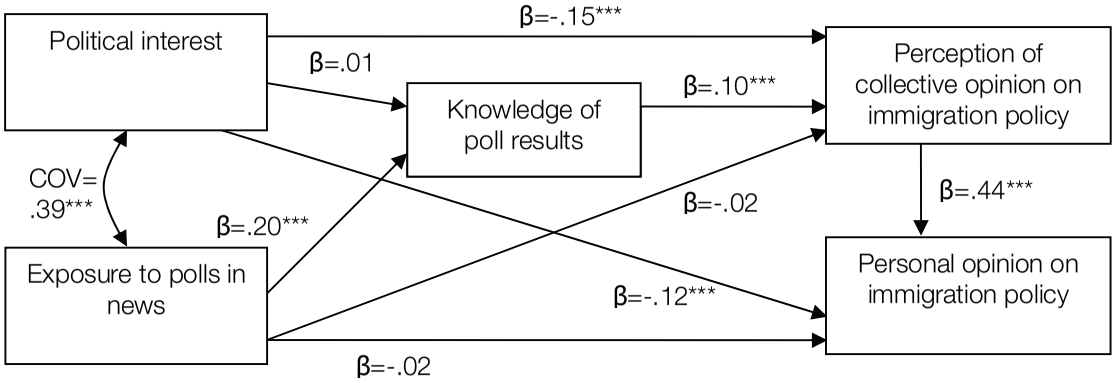
Firstly, in line with the previously reported ESS-results, no significant direct paths from exposure to specific opinion polls in the news on *personal opinions* were observed (Path 1; depicted in Figure 8-1). However, whereas the ESS-data showed for two issues indications of news media-effects on *perceptions of collective opinion*, the online panel data did not show any significant direct path from exposure to polls on the collective perceptions (Path 2). But, all three issues showed a significant ($p<.001$), and rather strong (.43-.46) direct path from perceptions of collective opinion on personal opinions (Path 3). Similar to the previous results from the ESS-survey, this path was for the three issues in the positive direction, which means that a higher perceived collective support for an issue was related to a higher personal support for that issue.

Figure 8-2: Standardized path coefficients for political trust (n=1842)



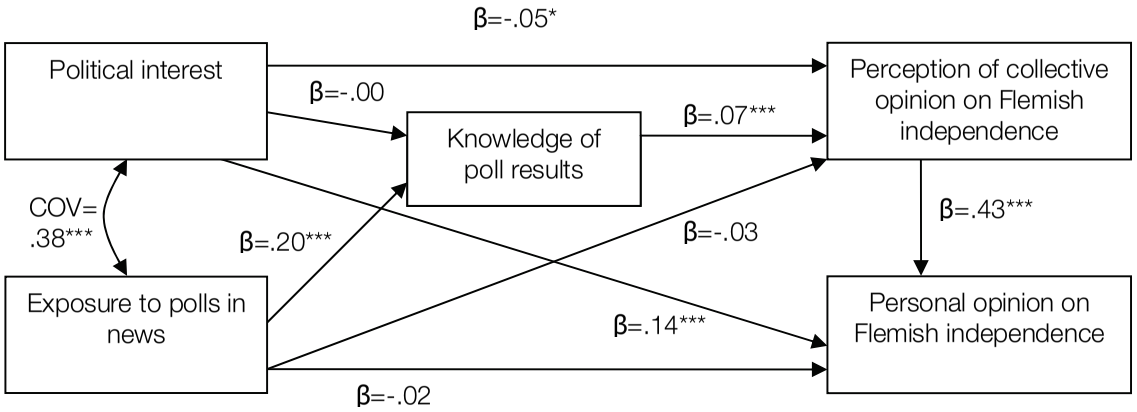
Note: R^2 personal opinion=.27; R^2 perception of collective opinion=.01; R^2 exposure to polls=.04; ***p<.001

Figure 8-3: Standardized path coefficients for immigration policy (n=1755)



Note: R^2 personal opinion=.23; R^2 perception of collective opinion=.03; R^2 exposure to polls=.04; ***p<.001

Figure 8-4: Standardized path coefficients for the independence of Flanders (n=1654)



Note: R^2 personal opinion=.20; R^2 perception of collective opinion=.01; R^2 exposure to polls=.04; *p<.05; ***p<.001

Regarding the indirect effect from poll exposure on personal opinions, through perceptions of collective opinion, Table 8-12 shows that only very small indirect effects were observed. This is similar to the results reported in Chapter 6. Closely related to this indirect effect, a direct path from knowledge about specific opinion polls to the perceptions of collective opinion was expected (Path 4). In contrast to the ESS-data which showed no significant paths from poll attention to perceptions of collective opinion, this path was for all three issues significant ($p<.001$) when the specific indicator of knowledge about poll results was used. Thus, although the path analyses indicated no significant effects of exposure to specific opinion polls on personal opinions and perceptions of collective opinion, they did show significant effects of knowledge about poll results on the perceptions of collective opinion. Since these perceptions were also significantly related to personal opinions, indirect effects of knowledge about poll results on personal opinions through collective perceptions may be suggested. However, similar to the findings reported in Chapter 6, Table 8-12 shows that these indirect effects from knowledge about poll results on personal opinions through perceptions of collective opinion were for the three issues very small.

Finally, regarding the a priori expected interrelations between news media, political interest and poll attention, similar relationships to the ESS-analysis were explored for the online panel data in which specific indicators of poll exposure and knowledge of poll results were used. Firstly, in line with the ESS-results, a significant covariance was found between poll exposure and political interest when the specific indicators were used (Path 5; COV=.38-39***). Secondly, similar to the ESS-data, exposure to specific polls significantly affected knowledge about poll results (Path 6; β=.20***). And thirdly, in contrast to the ESS-results in which a significant positive path was observed from political interest to poll attention, the degree of political interest was not significantly related with knowledge of poll results (Path 7; β=.00-.01). This is rather remarkable, since it might be expected that a higher political interest would be related to a higher political, and more specific knowledge of poll results. However, it should be noted that at the bivariate level this positive relation was observed between the variables.

Table 8-12: Direct, indirect and total effects from path analysis with specific indicators of poll exposure and knowledge about poll results for three issues

	Political trust			Immigration policy			Independence of Flanders		
Effect	Direct effect	Indirect effect	Total effect	Direct effect	Indirect effect	Total effect	Direct effect	Indirect effect	Total effect
On personal opinion									
of perception of collective opinion	0.4576	0.0000	0.4576	0.4401	0.0000	0.4401	0.4303	0.0000	0.4303
of political interest	0.2590	0.0010	0.2601	-0.1169	-0.0655	-0.1824	0.1416	-0.0217	0.1199
through perception of collective opinion		*-0.0002*			*0.0005*			*-0.0001*	
through poll knowledge and perception		*0.0012*			*-0.0660*			*-0.0216*	
of specific poll exposure	-0.0315	-0.0200	-0.0515	-0.0203	0.0025	-0.0178	-0.0183	-0.0048	-0.0231
through perception of collective opinion		*-0.0119*			*-0.0066*			*-0.0110*	
through poll knowledge and perception		*-0.0081*			*0.0092*			*0.0062*	
of poll knowledge *through perception of collective opinion*		*-0.0403*			*0.0448*			*0.0309*	
On perception of collective opinion									
of political interest	0.0027	-0.0004	0.0023	-0.1499	0.0011	-0.1488	-0.0502	-0.0003	-0.0505
of specific poll exposure	-0.0260	-0.0176	-0.0436	-0.0151	0.0208	0.0057	-0.0255	0.0145	-0.0111
of specific poll knowledge	-0.0881	0.0000	-0.0881	0.1019	0.0000	0.1019	0.0718	0.0000	0.0718
On specific poll knowledge									
of political interest	0.0045	0.0000	0.0045	0.0105	0.0000	0.0105	-0.0042	0.0000	-0.0042
of specific poll exposure	0.2002	0.0000	0.2002	0.2042	0.0000	0.2042	0.2015	0.0000	0.2015

Note: The column of indirect effects contains the total indirect effects, while the italic results refer to the specific indirect effects

Similar to Chapter 6, an exploration of the extended path model with age and education as explanatory variables for political interest and poll exposure were performed (for extended model cf. Subsection 6.4.3.). However, similar to the ESS-findings, the initial path coefficients reported in this section did not change much whether or not it was additionally controlled for age and education. Furthermore, the expected relationships among age, education, poll exposure and political interest were observed, in line with the results reported in Chapter 6.

8.6.2. Quasi-experimental poll effects

Whereas the previous section discussed the results of the path analyses, by which interrelations among specific exposure to poll news, knowledge about poll results and opinions were simultaneously investigated, the present section presents the differences tested between the quasi-experimental and –control groups, which differed in their natural exposure to specific opinion polls in the news. More specifically, respondents were classified into the quasi-experimental group if they reported to have noticed certainly at least one out of five opinion polls related to the three issues of the study and of which results were published previously by the news media (cf. Subsection 8.4). Respondents were classified into the quasi-control group if they reported not to have been exposed to any of these polls or did not remember it. This quasi-experiment was performed to study whether natural exposure to specific polls published by the Flemish news media during the pre-electoral period of 2009 had effects on knowledge about poll results, as well as on personal opinions and perceptions of collective opinion about three general issues (political trust, immigration policy, and independence of Flanders). For this, between-group comparisons were performed between the quasi-experimental and –control groups by two-sided t-tests (similar to the analysis technique used in Chapter 7). To have an idea of the impact of the propensity score adjustment that made the quasi-experimental groups similar for age, gender and education (cf. Subsection 8.5.3), both unweighted and weighted results are shown.

First of all, effects from natural exposure to opinion polls that previously appeared in the news media on knowledge about poll results were tested between the quasi-experimental and –control groups. It was expected that this knowledge about poll results would increase after natural exposure to polls in the news ($H1_A$). In line with this expectation, Table 8-13 shows that the average knowledge of poll results (which consisted of an index that could range between 0 and 12 poll items correctly estimated) was indeed significantly

higher in the quasi-experimental group (who remembered at least one out of five opinion polls related to the issues political trust, immigration policy and Flemish independence) than the quasi-control group (who did not remember any of these five opinion polls). This difference remains significant, even when the quasi-experimental groups were made similar for the basic background characteristics age, gender and education by propensity score adjustment. Thus, these results suggest that natural exposure to specific polls published by the Flemish news media during the pre-electoral period of 2009 possibly affected the degree of knowledge about poll results. However, the difference in the average knowledge index between the quasi-experimental groups was fairly small (mean group-difference of -.06 on a scale that ranges between 0 and 12).

Table 8-13: Differences in knowledge of poll results between the quasi-experimental (n=863) and quasi-control group (n=1039), unweighted and weighted by propensity score adjustement, PSA, on age, gender and education

	Knowledge of poll results			
	Unweighted		PSA weighted	
Group	Mean	(SD)	Mean	(SD)
Q-Control	2.95	(1.99)	2.97	(2.02)
Q-Experimental	3.52	(1.92)	3.52	(1.92)
M diff (Ctr-Exp)	-0.57		-0.55	
t (df); p	-6.33 (1900); <.0001***		-6.03 (1879); <.0001***	

Note: ***p<.001; M diff refers to Mean differences between quasi-control group and quasi-experimental group

Secondly, differences in personal opinions and perceptions of collective opinion on the three different issues were tested between the quasi-experimental and –control groups. Based on the impersonal media influence hypothesis (Mutz, 1998) and the substantive findings of Chapter 7, it was expected that natural exposure to poll publications primarily affected the perceptions of collective opinion ($H2_A$), rather than the personal opinions ($H2_0$). Results are shown in Table 8-14.

Table 8-14 shows that for the issue of political trust, the personal opinions did only borderline-significantly differ at the 10-percentage significance level after propensity score adjustment for age, gender and education. More specifically, a slightly higher political trust was observed in the quasi-experimental group compared with the quasi-control group. Although the perceptions of collective opinion on this issue were not significantly different anymore after propensity score adjustment, they also indicated a slightly higher perceived political trust in the quasi-experimental group. For the issue of immigration policy, both the personal opinions and perceptions of collective opinion were significantly different between the quasi-experimental and –control groups, before and after propensity

score adjustment for age, gender and education. More specifically, the personal opinions and perceptions of collective opinion in the quasi-experimental group were significantly less negative towards migrants than in the quasi-control group. Finally, for the issue of Flemish independence, no significant differences were found between the quasi-experimental groups before, nor after propensity score adjustment for age, gender and education.

Table 8-14: Differences in personal opinions and perceptions of collective opinion between the quasi-experimental (n=863) and quasi-control group (n=1039), unweighted and weighted by propensity score adjustement, PSA, on age, gender and education

	Personal opinion				Perception of collective opinion			
Issue								
Political trust	Unweighted		PSA weighted		Unweighted		PSA weighted	
Group	Mean	(SD)	Mean	(SD)	Mean	(SD)	Mean	(SD)
Q-Control	4.02	(1.99)	4.13	(1.94)	38.61	(13.70)	38.22	(13.65)
Q-Experimental	4.30	(1.94)	4.30	(1.94)	38.97	(14.49)	38.97	(14.49)
M diff (Ctr-Exp)	-0.28		-0.17		-0.36		-0.75	
t (df); p	-3.06 (1852); .0022**		-1.90 (1834); .0573†		-0.56 (1900); .0575†		-1.16 (1879); .2465	
Immigration policy								
Group	Mean	(SD)	Mean	(SD)	Mean	(SD)	Mean	(SD)
Q-Control	3.08	(0.92)	3.03	(0.92)	54.83	(17.13)	54.01	(17.33)
Q-Experimental	2.83	(0.97)	2.83	(0.97)	51.41	(17.53)	51.41	(17.53)
M diff (Ctr-Exp)	0.25		0.20		3.42		2.60	
t (df); p	5.7 (1763); <.0001***		4.46 (1746); <.0001***		4.29 (1900); <.0001***		3.22 (1879); .0013**	
Independence of Flanders								
Group	Mean	(SD)	Mean	(SD)	Mean	(SD)	Mean	(SD)
Q-Control	2.81	(0.72)	2.82	(0.74)	40.63	(16.40)	40.08	(16.01)
Q-Experimental	2.86	(0.85)	2.86	(0.85)	39.35	(16.46)	39.35	(16.46)
M diff (Ctr-Exp)	-0.05		-0.05		1.28		0.73	
t (df); p	-1.38 (1550); .1692		-1.19 (1646); .2345		1.69 (1900); .0913		0.97 (1879); .3303	

Note: † p<.10; *p<.05; **p<.01; ***p<.001; M diff refers to Mean differences between quasi-control group and quasi-experimental group

These results indicate that personal opinions and perceptions of collective opinion on immigration policy and personal opinions on political trust might have been affected by the natural exposure to specific opinions polls that previously appeared in the Flemish news media during the pre-electoral period of 2009. However, the personal opinions and perceptions of collective opinion on the Flemish independence and the perceptions of collective opinion on political trust did not show significant differences between the quasi-experimental and –control groups studied.

These differences observed between the issues might be due to the different media coverage for these issues. The media-coverage of poll results about political trust before the survey was very negative, in line with the overall pre-electoral news about the issue, which was dominantly in the negative direction (cf. Section 8.4). This could perhaps explain the small difference between the quasi-experimental groups in perceptions of collective opinion, because these groups were classified based on their exposure to specific polls. Indeed, if everyone was exposed to the general negative news content of low political trust, no or only small significant differences could be found between the quasi-experimental group exposed to poll publications on the issue and the quasi-control group not exposed to these specific polls. In line with this argumentation, for the issue of Flemish independence no specific poll was entirely devoted to this issue and media-coverage about it was fairly absent during the pre-electoral campaign of 2009 (cf. Subsection 8.4). This might be an explanation why for this issue no significant differences between the quasi-experimental and quasi-control groups could be observed in the personal opinions and perceptions of collective opinion. However, for the issue of immigration policy, both the general news media coverage and that of the poll results in the pre-electoral period before the survey was fairly negative (cf. Subsection 8.4), but significant differences between the groups were found, and the quasi-experimental group was slightly more positive towards migrants than the quasi-control group. Although this might seem counter-intuitive, it might also indicate that the quasi-experimental group was closer to the poll results published. Closer inspection revealed that the poll results published about negative attitudes towards migrants (and more specifically about the statement that migrants come here to take advantage of the social security system which was used in the question wording for the perception of collective opinion) were mostly between 40 and 50 percent. This means that the perception of collective opinion in the quasi-experimental group was indeed closer to this percentage than that of the quasi-control group.

8.7. Discussion and conclusion about effects from poll publications on opinions in a natural setting

This chapter empirically investigated effects from poll publications on opinions in a natural setting, by performing a natural field experiment. Based on survey data about exposure to real opinion polls that previously appeared in the Flemish news media, a quasi-experimental and quasi-control group was distinguished. This information about poll publications was gathered by a content analysis of newspaper articles and television

news items about opinion polls, published in a five-month pre-electoral period before the elections of June 2009 in Flanders.

This content analysis showed that in line with expectations based on previous findings reported in Chapter 2 of Part I, in absolute terms more poll articles were published in 2009 than 2004. For this, poll articles published in identical newspapers during a similar pre-electoral period between 2004 and 2009 (time interval of 5 years) were compared. The main difference was that during the pre-electoral period of 2009, remarkably more polls about a general topic were published, than about a strictly electoral topic (i.e. voting intentions and popularity ratings of politicians). Probably due to this over-emphasis on opinion polls with a general issue, the average methodological index per newspaper article was slightly higher in 2009 compared with 2004. Though, this average remained fairly low (ranging between .91 and 1.87 on a scale of 0 to 7 methodological aspects to be disclosed, according to minimal disclosure standards of ESOMAR/WAPOR, AAPOR, NCPP, CASRO, Febelmar). Additionally, poll publications within the pre-electoral period of 2009 were compared between newspapers and television journals to have additional information about polls in television news that was lacking for the content analysis reported in Chapter 2. This comparison supported general expectations, based on previous research findings about differences between newspapers and television coverage of opinion polls (Andersen, 2001; Smith & Verall, 1985; Suhonen, 2001; de Vreese & Semetko, 2002). For example, it was observed that in absolute terms, newspapers published more poll articles than television news during the same time period studied. Moreover, it was found that newspapers disclosed on average slightly more methodological aspects than television news. Both observations may be explained by differences in media-format, for example that there is more space available in newspapers for interpretations of opinion polls and disclosure of methodological poll details than in television news.

Based on this content analyzed data about poll publications, a survey was designed for two analytic aims. A first aim was to investigate interrelations between poll exposure, knowledge of poll results and opinions by using specific indicators of exposure to real opinion polls previously published in the news media (in addition to general news media exposure), and knowledge about poll results previously published (in addition to general poll attention). At the bivariate level, significant relations were observed between specific exposure to opinion polls and personal opinions about two issues that were topical in the pre-electoral period under study (political trust and immigration policy), but these relations

were not observed when the path model was tested. However, whereas previously the ESS-data (cf. Chapter 6) did not show significant direct paths from poll attention to perceptions of collective opinion, the current data did show significant direct paths from knowledge of poll results to collective perceptions about all three issues under study. Furthermore, perceptions of collective opinion and personal opinions were found to be somewhat more strongly correlated than in the ESS. This could suggest indirect effects from knowledge of poll results on personal opinions through perceptions of collective opinion. However, the path coefficients for these indirect effects were found to be very small.

Differences between the present findings and those reported in Chapter 6 might be due to different reasons. First of all, there was a difference in measurement: instead of general indicators (of news media exposure and general poll attention), more specific indicators (of poll exposure and knowledge of poll results) were used in the path models tested. Secondly, the difference in survey timing might be another possible explanation for the differences observed. Whereas the ESS-interviews were conducted between November and March of 2009, the natural experimental survey was conducted very close to the elections, namely between the end of May and beginning of June. As mentioned in the results-section, different issues were topical in the news media when the first surveys of the ESS were conducted, than when those of the quasi-experiment were performed. Especially during the pre-electoral political campaigns, people might have been more frequently exposed to news about the issues studied. But this suggestion implies that general news media content generated effects and that these effects fluctuate over time, depending on the news media attention spent on issues. Thirdly, also the difference in data collection mode, namely between a face-to-face interview and an online access panel survey might have led to differences in the results reported. However, it was not possible to disentangle these mode effects from the substantive findings about poll effects.

Apart from the path models tested with specific indicators of poll exposure and knowledge of poll results, a quasi-experimental and –control group was distinguished based on their natural exposure to poll publications. Their knowledge of poll results, as well as their personal opinions and perceptions of collective opinion were compared before and after taking into account initial imbalance in age, gender and education by propensity score adjustment. First of all, the comparison of knowledge about poll results between the quasi-experimental and –control groups showed significant differences,

before and after propensity score adjustment was applied for the basic background characteristics age, gender and education. This indicates that the natural exposure to specific polls may have affected, and in particular increased the degree of knowledge about poll results. This is in line with general expectations, because people can learn from poll publications and hence, increase their knowledge about published poll results (Weaver, 1996; Iyengar & Kinder, 1987; Salomon, 1984).

Furthermore, the comparison of opinions between the quasi-experimental and –control groups indicated that the natural exposure to specific poll publications may have affected the personal opinions and perceptions of collective opinion about immigration policy, whether or not the propensity score adjustment was applied. For the issue of political trust, differences in personal opinions between the quasi-experimental and –control groups were only borderline-significant at the ten percentage alpha level after applying propensity score adjustment, but the between-group differences in collective perceptions on this issue were not significant anymore after propensity weighting. In contrast, for the issue of Flemish independence, no significant differences in personal opinions, nor perceptions of collective opinion could be found between the quasi-experimental groups. Differences in general news media content and poll coverage might have accounted for these differences observed.

The findings reported suggest some indications of effects from poll publications on opinions about political issues and knowledge about polls results in a more realistic setting than in the controlled experiment (of Chapter 7), while it was focused on exposure to specific opinion polls that were previously published by the Flemish news media, rather than general news media exposure (cf. Chapter 6), thanks to the content analysis of news media reports. However, while the content analyzed data was used to design the quasi-experimental survey and to classify the quasi-experimental groups, an avenue for further research may be to actually use the content analyzed information to weight the news media exposure variable. For example, de Vreese and Semetko (2004, p. 708) weighted news media exposure by incorporating the amount and tone of specific news about a referendum. The current analysis, though, focused primarily on quantitative poll information, and hence, did not enable to use detailed information about the way in which news about polls was disseminated.

A possible explanation for the rather weak effects observed from exposure to poll publications on the opinions might be due to the selection of the particular time period of

study. The natural field experiment was conducted in the pre-electoral period before the regional elections in Flanders in 2009. It was opted to study the poll publications that appeared prior to the survey by content analysis during a period for which an intensified frequency of poll publications could be expected, based on previous findings in Chapter 2 of Part I. Because of this selection of the time period, a lot of polls in the news were registered and could be used to design the survey and analyze poll effects in a natural setting. However, it could be argued that due to this increased frequency of poll publications, there was less visibility of particular polls for respondents. Accordingly, it was difficult to disentangle actual exposure to these polls and to study effects from it on opinions. Furthermore, it should be noted that effects from polls about general issues were investigated during a pre-electoral period. Therefore a recommendation is that the study needs to be replicated during another non-electoral period, during which less opinion polls are published, but of which the visibility is greater for the respondents.

Furthermore, the quasi-experimental research design did not include a pretest. This was primarily because of budgetary reasons. However, in Chapter 7 it was suggested that actual poll effects on opinion could have been suppressed due to the inclusion of a pretest, because of people's tendency to give consistent responses between a pretest and post-test of the same opinions. Additional practical concerns also limited the use of a pretest, because it could not be known exactly what poll topics and results (besides the regular electoral polls about vote intentions) would be published during the time period under study. Cooperation with a poll institute about the release of particular opinion polls could be a possible solution for this. In this way, a pretest survey can be performed before the poll is published.

Another discussion point might be the classification of the quasi-experimental groups based on their natural exposure in terms of the amount of specific polls certainly noticed in the news media. Although this variable was considered as natural exposure, it was based on a self-report survey question that might have been biased. Furthermore, although the quasi-experimental groups were made equal for their basic background characteristics age, gender and education, it was found that they still differed in their degree of political interest and news media use. In line with what can be expected, it was observed that persons who reported to be naturally exposed to poll publications were more politically interested and more exposed to news from television and newspapers. The question can be raised whether these variables should be used as additional

covariates in the propensity score adjustment or whether they should be regarded as explanations for the natural exposure that differs between the groups[66].

A final note about the used variables is necessary in this discussion section. In the present chapter, it was distinguished between effects from exposure to specific poll information on personal opinions and perceptions of collective opinion on the one hand, and on knowledge of poll results on the other hand. More specifically, personal opinions and perceptions of collective opinion were considered as evaluative judgments about general issues on which *affective* effects from exposure to poll publications can occur. Knowledge of poll results, on the other hand, was considered as the degree to which poll results were correctly estimated, and on which *cognitive* effects from exposure to poll publications can occur. However, perceptions of collective opinion may be regarded as closely related to knowledge about poll results. For example, the survey questions for both variables asked for an estimation of the percentage of other people in the audience. However, they need to be distinguished from each other. The former referred to a perception of the general opinion climate, which can be based on various resources, of which poll results may, but not necessary need to be a part. Indeed, people could base their perceptions of collective opinion on interpersonal communication with friends and family, on dominant opinions that are prevalent in a particular group to which the person belongs, as well as general media content. In contrast, knowledge about poll results referred very specifically to a correct or incorrect estimation of results from opinion polls that previously appeared in the news media. The question-items were based on specific opinion poll results, after which an index was created that counted the number of correctly estimated poll results. Thus, the higher the values of the variable about knowledge of poll results, the more poll results were correctly estimated, while the higher

[66] First explorations with the data were performed regarding this discussion point. If political interest and news media exposure were used as additional covariates in the propensity score adjustment weighting, the problem was that the initial differences in political interest could not be removed by this weighting technique based on the propensity score. This indicates that not all variables can be blindly used in the propensity score adjustment in order to make the groups equal for a set of covariates. Further research on this point is necessary. An additional exploration was the inclusion of political interest and news media use in regression analyses with the opinion variables (personal opinions and perceptions of collective opinion) as the dependent variables, the quasi-experimental group variable which refers to natural exposure as the independent variable (which was weighted for age, gender and education), as well as political interest and/or news media use (watching television news and reading about politics in newspapers separately included in the analyses) as additional independent variables. It turned out that the effects from natural poll exposure on the opinions mostly remained, after additional control for political interest and news media use. However, the R-square values were so low for the regression models (ranging between 0 and .04) that these variables could not account for much of the variance explained in the dependent variable.

the values of the variable perceptions of collective opinion, the higher the percentage of other Flemings favouring a particular opinion. Thus, the latter refers to an opinion direction, while the former refers to the amount of knowledge about poll results.

Chapter 9.
Discussion and Conclusion

"Life is the art of drawing sufficient conclusions from insufficient premises."
Samuel Butler (1835-1902)

The purpose of this dissertation was addressed in two Parts. Part I gained insight into the interrelationships among news media, opinion polls and opinions, while Part II empirically investigated implications of these interrelations for the opinions in the public, and more specifically effects from poll publications on individual opinions. The basic underlying idea of this dissertation was depicted as an infinite loop in Chapter 1 (cf. Figure 1-1). Individual opinions are formed and expressed in the public, using information from the methodological poll context or the external flow of media communication. The publication of poll results by the news media can become part of the more broader concept of public opinion, and affect individual opinions. These opinions can be measured again by opinion polls, published by the news media and be used in the broader public debate. In this way, an infinite loop is created between individual opinions, poll measurement, news media publication and public opinion. This section summarizes the main research findings reported in the different chapters and discusses them in the light of theoretical considerations, after which methodological limitations of the study and avenues for further research are presented, as well as some recommendations for news media, pollsters, policymakers, the public and scholars in the field of public opinion research.

9.1. General overview of main research findings

In this section, a general overview of the main research findings is provided. First, findings about the interrelationships between news media, polls and opinion are summarized, after which findings about the effects from poll publications on opinions are discussed.

9.1.1. Interrelationships between news media, polls and opinion

This dissertation described in Part I close interrelationships between news media, polls and opinions. Firstly, a close interrelationship between news media and opinion polls was described based on a historical review of public opinion polling (Mann & Orren, 1992; Gawiser & Witt, 1994; Streb & Genovese, 2004; Butler, 2007) and a content analysis of press articles (cf. Chapter 2). This content analysis of newspaper articles about opinion polls published between 2000 and 2006 provided empirical data that was previously lacking for Flanders. Moreover, it provided essential information about poll publications, before any effects from exposure to these polls could be investigated in later chapters. Therefore, first information was collected about the number of polls published, as well as the way how they are reported in the news. Results showed a high frequency of poll publications in Flemish newspapers, which increased in absolute numbers over the years, as well as a close involvement of the media in frequently commissioning the published polls. This implies that news media can play a role in selecting and creating news based on opinion polls. More specifically, they can select those topics that are related to the broader public debate to poll the opinions in the public and choose a mode of data collection that can produce daily and timely poll news, such as Internet-related opinion polls. Furthermore, tensions between news criteria (and in particular frequency, unambiguity, meaningfulness, continuity; Galtung & Ruge, 1965) and methodological standards of performing high-quality survey research indicated that media can manufacture news based on opinion polls. For example, it was observed that newspapers reported opinion polls without disclosing many methodological details, nor including much evaluative criticism in the poll reports. Thus, despite the typical ambiguity in poll results due to methodological limitations, polls are reported unambiguously as 'facts'. This implies that a particular representation of public opinion is provided to the public, for which it is not possible to accurately evaluate the methodology behind the poll results, but which may affect people's perceptions of collective opinion (Suhonen, 2001; Herbst, 1998; Barnet, 2001).

A comparison with poll articles published in identical newspapers during a similar pre-electoral period between 2004 and 2009 (cf. Chapter 8; Part II) showed that in 2009 much more polls about a general topic were published, than about a strictly electoral topic (i.e. voting intentions and popularity ratings of politicians). Therefore, the average methodological index per newspaper article was slightly higher in 2009 compared with 2004, though, overall this average remained fairly low. A comparison of poll publications

within the pre-electoral period of 2009 between newspapers and television news supported general expectations, that in absolute terms, newspapers published more poll articles than television news during the same time period studied. Moreover, it was found that newspapers disclosed on average slightly more methodological aspects than television news. Thus, this observation suggests that the formal quality of poll reports, in terms of the degree of methodological disclosure, is slightly better for newspapers than for television news, though overall they perform rather poor regarding the disclosure of methodological poll information.

To study whether it is important that an accurate presentation of opinion polls is published in the news, the interrelationship between individual opinions on the one hand, and media and methodology on the other hand, was theoretically addressed (cf. Chapter 3). Based on the discussion of different perspectives on individual opinion formation and expression in a survey context (Converse's nonattitudes thesis, 1964; Achen's measurement-error thesis, cognitive psychological approach of opinions, Tourangeau et al., 2000; Zaller's conception of temporary opinion constructions, 1992), and previous empirical research (Hill & Kriesi, 2001), it was inferred that both methodology and media can play a role in individual opinion formation and expression. Regarding the possible influence from a poll's methodology on the poll results, three case studies of relatively new polling methods were described (cf. Chapter 4). The discussion of push polling, online daily polling and online access panel polling indicated that their poll results cannot be used as a valid indication of passive mass opinion due to methodological hurdles related to questionnaire and sampling design. Furthermore, the conceptualization of public opinion showed that even with an unbiased questionnaire and representative sampling design, the aggregation of poll results can only represent the passive form of mass opinion, but not necessarily the active form of public opinion (Bryce, 1966; Page, 2006; Kepplinger, 2008).

Additionally, information from media may influence individual opinions, due to shifting in saliency and accessibility of information (accessibility effects such as agenda-setting, priming) or due to integrating interpretation frames in opinions that the media use (applicability effects such as framing; Scheufele & Tewksbury, 2007; McCombs & Shaw, 1972; Iyengar & Kinder, 1987; Kinder & Sanders, 1990; Chong & Druckman, 2007; see de Boer & Brennecke, 2009). These types of effects, in turn, correspond to the two routes of persuasion effects of the Elaboration Likelihood Model: effects through the central route due to high information processing and effects through the peripheral route

due to low information processing (Petty & Cacioppo, 1986; Petty & Wegener, 1999). This indicates that effects from poll publications in the media on individual opinions can show individual differences, due to moderators (Baron & Kenny, 1986). In line with Zaller's (1992) RAS-model, it can indeed be assumed that effects of information dissemination may differ depending on individual characteristics, such as political interest and opinion strength (Zaller, 1992; Kriesi, 1999; Sciarini & Kriesi, 2003). Furthermore, polls which give an indication of collective opinion may affect first perceptions of collective opinion, which in turn may influence personal opinions (Mutz' impersonal media-influence, 1998; Mutz & Soss, 1997; Tyler & Cook, 1984; Nelson, Clawson & Oxley, 1997).

These expectations about direct and indirect effects, as well as differential effects from poll publications on opinions were empirically investigated, because it is relevant to know whether individual opinions in the public are affected by opinion polls that are unambiguously reported in the news media, but of which the methodology might have influenced the aggregation of poll results obtained. Therefore, the next question addressed was whether the close interrelationships described between news media, opinion polls, individual and public opinion have implications for the opinions in the public.

9.1.2. Effects from exposure to poll publications on individual opinions

To study implications of the interrelationships described in Part I for opinions in the public, Part II was devoted to the empirical investigation of effects from poll publications on individual opinions. This empirical poll-effects study contributes to the ongoing academic research about possible poll effects on opinion.

First of all, effects from exposure to *general news media* on opinions were investigated, because news media are the most important disseminators of poll results and their interpretations to a wider public (Traugott, 1992). The a priori model tested was mainly based on the hypothesis that exposure to news media may indirectly affect personal opinions through perceptions of collective opinion (Mutz, 1998; Mutz & Soss, 1997; Tyler & Cook, 1984). Put differently, it was tested whether perceptions of collective opinion mediated effects from news media exposure on personal opinions. For the purpose of the study, it was possible to additionally include questions at the end of the Dutch-speaking questionnaire of the *European Social Survey* for the Flemish region (ESS, Round 4, 2009). The use of path analysis allowed to study simultaneously the direct and indirect effects of news media exposure on opinions, the relationship between perceptions of collective opinion and personal opinions, as well as the interrelationships between news

media use, political interest and attention to opinion polls. It was observed that the direct path from reading newspapers to personal opinion about one issue (Flemish independence) reached borderline-significance, whereas the direct path from television news to the perceptions of collective opinion reached significance for two issues (Flemish independence and social services) and borderline-significance for the third issue (immigration policy). Furthermore, the relationship between perceptions of collective opinion and personal opinions was found to be significant and positive. Finally, in a simple mediation model, a significant indirect effect of news media exposure on personal opinions through perceptions of collective opinion was observed for television news (though not for reading newspapers). But in the overall path analytic model, this specific indirect effect from news media exposure on personal opinions was found to be very small.

Second, it was investigated whether and to what degree exposure to *specific poll information* affected personal opinions and perceptions of collective opinion. An experimental survey was performed in which poll information about different issues was provided to an experimental group of survey respondents. In the initial experiment during a first survey wave, it was observed that the provision of poll information did not influence the personal opinions on political issues. However, the perceptions of collective opinion did differ significantly between the experimental and control groups in the post-test condition. This poll effect on the perceptions of collective opinion was replicated during a second-wave experiment, by using the same measurement procedure at a later occasion. Again it was observed that, whereas the personal opinions did not significantly differ between the groups in neither test condition, the perceptions of collective opinion did show significant differences shortly after being exposed to related poll information. These changes in the perceptions of collective opinion were in the direction that could be expected based on the poll information provided. Moreover, the perceptions of collective opinion still differed between the initial experimental and control groups in a second post-test condition. Thus, the initial poll effect on the perceptions was still observed three months later, though it was weakened.

Finally, insights gained from the analysis of general survey data and the experiment on specific poll information were integrated into a third section of the empirical poll-effects study on individual opinions. More specifically, this third section was designed as a natural field experiment, in which a quasi-experimental survey was preceded by a content analysis of poll publications that appeared in the Flemish news media before the survey.

Instead of effects from general news media exposure and attention, effects from specific poll exposure and knowledge about poll results were investigated. These effects from exposure to poll publications on individual opinions were studied in a natural setting, instead of a controlled research setting in which poll information was provided by the researcher. In particular, the natural exposure to poll publications in the news during a five-month pre-electoral period before the regional elections in Flanders in 2009 was used to post-hoc classify respondents into a quasi-experimental and quasi-control group. It was found that whereas previously the ESS-data did not show significant direct paths from poll attention to perceptions of collective opinion, the current data did show significant direct paths from knowledge about poll results to collective perceptions about all three issues under study. Furthermore, perceptions of collective opinion and personal opinions were found to be somewhat more strongly correlated in the positive direction than in the ESS. Similar to the ESS, the path coefficients for the specific indirect effect from poll exposure on personal opinions through perceptions of collective opinion were found to be very small.

Additionally, the same survey data was used to compare knowledge of poll results, as well as personal opinions and perceptions of collective opinion between a quasi-experimental and –control group, which were distinguished based on their natural exposure to poll publications, after taking into account initial imbalance in age, gender and education by propensity score adjustment. Firstly, an effect of natural exposure to poll publications was observed on the knowledge about poll results. This indicates that there was a knowledge gain about opinion poll results. Secondly, effects from natural exposure to poll publications were observed on the personal opinions about two issues (immigration policy and borderline-significant for political trust), and they were found on the perceptions of collective opinion about one issue (immigration policy). Thus, whereas the previous experiment repeatedly observed effects from the provision of poll information on the collective perceptions, the natural experiment also observed effects from exposure to poll publications on the personal opinions.

Thus, the different research designs for the empirical poll-effects study showed that primarily the perceptions of collective opinion were affected by exposure to poll publications, rather than the personal opinions. This is in line with ideas about the impersonal media influence that news media publications, and in particular poll publications mainly affect the perceptions of collective opinion. Investigations of possible indirect effects from these poll publications on personal opinions through perceptions of

collective opinion were significant for watching television news in a simple mediation model, but turned out to be very small in path analyses that included all interrelationships modeled. Despite the observation of a main effect from exposure to poll information on perceptions of collective opinion, individual differences due to differing levels of political interest, opinion strength and perceived poll influence did not produce significant results. Thus, the expectation of different susceptibility to poll effects in the public was not supported by the data in the present study. But, differences observed in relationships between reading newspapers and watching television news on the one hand, and personal opinions and perceptions of collective opinion, on the other hand, indicated that differences in age and education might play a role. Controlling for them in the path analyses as an explanation for the differences, however, did not change the path coefficients much, though it should be noted that these path coefficients were already fairly weak in the initial path analyses.

There might be several reasons why some of the theoretical expectations about poll effects on opinions were not confirmed in the second part of the dissertation. First of all, the focus of the empirical poll effects-study was especially on mass media publications of polls (in newspapers and on television), while developments in people's use of news media through the Internet were not taken into account. For example, it was not specified whether reading newspapers meant reading the news in the paper or through the Web. In addition, social media may become an increasingly important source of information about collective opinion for a lot of people. This requires adapted models of news media use that can adequately reflect the changing way in which people seek news and use media-information. In addition to mass media publications of polls, communication within personal networks might be an important source of information to base personal opinions upon, but also to have an idea of collective opinion. For example, the two-step flow of communication model proposed that mass media primarily affects opinion leaders, who in turn may influence a more broader and less interested public through interpersonal communication (Katz, 1957; Lazarsfeld et al., 1948). This may include discussion between family and friends about political issues or talking about polls that appeared in the news. Therefore, it is highly recommended to take this influence of interpersonal communication into account in future research on poll effects, in addition to the mass media-influence.

Furthermore, the observation of only small poll effects might also be due to the rather low saliency of the issues considered in the study. For example, although the independence

of Flanders was a very topical issue during the experiment, it was less topical during the *European Social Survey* or the natural field experiment. The publication of one poll amidst the flow, or even 'overload' of daily information messages might not generate huge effects on opinions. Moreover, it might not be the exact poll figure that people remember from the news, but rather the story around it. For example, observations of the 'base-rate fallacy' show that general statements about the number of people involved in a given social phenomenon are often neglected in favour of more individuating information or personality descriptions. This is mainly because base-rate information, such as polls or statistical data, seem to be rather remote and abstract, while exemplars are more vivid and specific (Dashmann, 2000; Zillmann, 1999, Nisbett et al., 1976). Another reason for the rather small opinion effects observed might be found in cultivation theory, which focuses on cumulative and overarching media-effects, rather than targeted and specific effects due to a single experimental stimulus. This theory posits that the repetitive pattern of media-messages may form mainstream, or 'cultivate' people's perceptions of reality. A first-order cultivation effect refers to media-effects on statistical descriptions of the society, while a second-order cultivation effect refers to media-effects on beliefs about the general nature of that society. According to this theory, the expected effects will be small, gradual, indirect and cumulative over-time. In contrast to the path models used, however, cultivation theory does not consider the media-effects as unidirectional but rather as complex interactions between medium and public (Gerbner & Gross, 1976).

In addition, it was argued in Chapter 4 (Subsection 4.1.1) that besides the sum of individual opinions, the concept of public opinion comprises also a more active form of public opinion. Studying this more holistic definition of public opinion would require a different research design than the methods used in this dissertation, which were mainly focused on measuring individual opinions over a relatively short period of time. Indeed, the cross-sectional data of the *European Social Survey* or the two-wave panel study of poll effects might not have grasped long-term opinion movements about an issue that transcend the individual level. For this reason, it can be suggested to study the influence of poll publications on opinions over a longer period of time than some months, and at a more aggregate level than the individual opinions. For example, the influence of group norms on the perceptions of collective opinion might play a role, but was not taken into consideration. Therefore, the small poll effects observed might have been partly due to the fact that poll results refer to an anonymous, distant public, for which opinion conformity might be weaker than in the case of a smaller group. Furthermore, the influence of the media in shaping public opinion at the macro-level was not considered in

the empirical effects-study. Instead, the experiment focused on 'accessibility' effects of the provision of poll information on accessible considerations to be used in expressing perceptions of collective opinion at the moment of the survey. Therefore, a suggestion for further research is to link published opinion polls and the public debate or political discussion at a more aggregate level than the individual opinions. Such an analysis would provide additional information about influences on the broader concept of public opinion.

9.2. Methodological limitations and avenues for further research

In this dissertation, different types of methods were used to disentangle interrelationships between news media, polls and opinions, as well as to discover effects from poll publications on individual opinions, namely content analyses of newspaper articles and television news, analysis of survey data from face-to-face and online access panel surveys, as well as the conduct of a controlled and natural experiment. Each of them might contribute to the overall research aims, but they also have their method-specific limitations. A content analysis of news reports about opinion polls provides information about the frequency and presentation of polls in the news, but cannot be directly related to poll effects on opinions. An analysis of survey data can discover relationships between general variables of interest, but cannot determine causality. The conduct of a controlled experiment can focus on effects due to a specific stimulus, but may not represent poll effects in the real world. And while a natural field experiment attempts to overcome these limitations, there may be less certainty about the direction of the effects and there may be interaction of unknown third variables. Specific problems with each of the methods related to the present study are subsequently discussed.

9.2.1. Content analysis of poll publications

In the content analysis of poll news presented in Chapter 2 of Part I only newspaper articles were taken into consideration mainly for pragmatic reasons, in particular because of the ease with which newspaper articles can be searched and retrieved by the electronic press database *Mediargus*, for which no equivalent (yet) exists to study audiovisual news material in Flanders. To partially address this limitation of mere newspaper analysis, the content analysis of poll news presented in Chapter 8 of Part II additionally took into consideration television news about opinion polls before the elections of 2009. The shorter period of study (five months of one year, instead of four entire years) made it more feasible to include television news in the analysis, for which daily journals had to be deliberately recorded (by the audiovisual department of the

university) and watched by the researcher in order to select the poll items to be content analyzed.

Despite the advantage of the use of *Mediargus* for selecting poll articles, this database did not allow to browse the entire newspaper of a day, so that it was not possible to have information about the size of the newspapers studied. Consequently, it was not possible to control the over-time increase in the absolute number of poll articles for the relative size of the newspapers. Furthermore, articles were not sampled on each day of the week in order to minimize distortion in the media content due to a single major news event, or extraordinary circumstances. However, it can be argued that by selecting all poll articles within a year (Chapter 2; Part I), possible distortion of such particular events was also reduced. Moreover, the choice for entire years included both electoral and electoral-free periods, which was interesting for the purpose of the study to compare between periods with a varying frequency of polls published. Furthermore, the time period studied from 2000 to 2006 may be too short to make firm conclusions about over-time trends in poll news. The choice for these recent years was motivated since the present dissertation focused on recently emerged polling techniques (e.g. Chapter 4) and the current state of opinion polling in Flanders (e.g. Chapter 2). However, due to the lack of systematic empirical research about poll news in Flanders, a larger time period should be taken into consideration in the future (e.g. similar to de Boer, 1995), and if possible from the early years when public opinion polls were introduced in Belgium (cf. establishment of polling institute Insoc by Jacquemyns in 1946), with its developments until today.

Finally, intercoder reliability measures were calculated based on agreement between two independent coders (simple and weighted Cohen's Kappa; 1960; 1968, as well as Krippendorff's alpha; Hayes & Krippendorff, 2007), but if disagreement was observed, no changes were made to the initial content analysis performed by the researcher. Such disagreement, however, could be used in a preliminary phase of developing and refining the coding instrument, instead of merely to calculate intercoder reliability. But it should be noted that the present coding instructions were mainly about registering information about polls in articles, which can be considered rather straightforward (e.g. registering the disclosure that a poll was conducted by telephone).

9.2.2. Analysis of survey data about exposure and opinions

The use of survey data, and especially of cross-sectional survey data makes it impossible to determine causal relationships between variables. Although in Chapter 6 of Part II

causal paths were studied by a sequence of multiple regression equations, path analysis can strictly speaking only determine correlations between variables but no causal effects. This implies that, for example, the significant path from perceptions of collective opinion on personal opinions may also be reversed, or may be mutual. However, the model tested by path analysis was a priori developed, based on theoretical assumptions. In particular, based on Mutz's (1998) hypothesis of 'impersonal influence' it was assumed that polls in the news, which give an indication of collective opinion, may primarily affect perceptions of collective opinion, which in turn may affect personal opinions. Therefore, the arrows depicted in the path model and empirically studied were from news media on personal opinions through perceptions of collective opinion. Moreover, the main purpose of the second part of the dissertation was to study effects from poll publications on individual opinions as the primary dependent variable. Therefore, the perceptions of collective opinion were used as a mediator in the relationship between media and personal opinions. An avenue for further research is to estimate paths in the model that can include feedback or reciprocal causation. These could not be included in the path analysis technique used (i.e. Calis-procedure in Sas), but require other software programs which can take into account the more complex model specifications. Furthermore, path analysis was applied because most of the variables used did not contain multiple items to construct latent variables, which would enable the use of other structural equation modelling techniques (Kline, 2005). However, to include the additional questions in the ESS for the path analysis, budgetary and time constraints were imposed on the length of the additional questionnaire (i.e. up to a maximum of five additional minutes in the personal interview), which restricted the use of several multiple-item questions. These should be used in further research, in order to minimize measurement error due to single-item questions, and to construct latent variables to be used in the analysis.

Closely related to such possible measurement error was the use of self-reports in the surveys for news media exposure and poll exposure, which may be biased as people might not accurately estimate the actual time spent on watching television news or reading about politics in newspapers. This might be verified based on the time-diary method (e.g. Robinson, 1999; Niemi, 1993), in which people have to note down in a diary how long they spent on for example watching the news and at which channel. However, mere exposure may not be the same as paying attention to news messages. Therefore, the analyses of survey data contained in addition to exposure to news media also attention to polls in the news (cf. Chapter 6) or in addition to exposure to polls also knowledge of poll results (cf. Chapter 8). In this way, it was attempted to gauge both

exposure and attention to poll news in the survey analyses (Slater, 2004; Chaffee & Schleuder, 1986). However, it should be noted that also these more specific survey questions about poll exposure and knowledge of poll results may be prone to measurement errors due to inaccurate self-reports of the respondents. This can be considered as a general problem for survey questions about exposure and knowledge.

Finally, some of the survey analysis performed was based on data collected by an online access panel (cf. Chapter 8; Part II), for which it was reported (in Chapter 4; Part I) that methodological biases may occur due to problems of coverage and self-selection (Couper, 2000; Dillman, 2000). Time and money constraints make an online access panel appealing to collect in a relatively short fieldwork period and at a low cost a lot of data useful for research purposes related to exploration of mechanisms behind poll effects or experimental tests of these effects (Bethlehem & Stoop, 2007, p. 127; Malhotra & Krosnick, 2007, p. 312). Before results of the online panel data were presented, distributions of basic background characteristics compared to the target population were discussed to have an idea of the sample composition obtained. Furthermore, the initial path analysis was conducted by using the *European Social Survey* data (cf. Chapter 6; Part II), which can be considered as a 'golden standard', due to the application of high-quality academic survey standards and its representativeness for the general public in Belgium, and more specifically Flanders. Furthermore, the main aim was to study processes of poll effects on opinions, as well as relationships between variables, such as between news media use, perceptions of collective opinion and personal opinions. In such a case, representativeness to the general public is less of a concern than when the marginal distributions are used to give an indication of passive mass opinion, which is often done in the news media based on online access panel polls. Thus, the main criticism for online access panel polls, and for Web-based polls in general, is mainly related to the use of the poll results to give an indication of the opinions of the general public.

9.2.3. Controlled experiment on poll effects

In the controlled experiment performed in Chapter 7 of Part II about poll effects on opinions, exposure to poll information was controlled by the researcher. However, despite the deliberate provision of poll information, it should be noted that some people might have been exposed to that information previously in the news media, because it was opted to expose individuals to real poll information that had previously been published by the news media. Another disadvantage of the provision of real poll

information is that it could not be experimentally manipulated in a particular direction in order to study effects of varying poll information between different groups. But, real poll information was provided to increase the external validity of the experiment and to provide people with an indication of collective opinion that was plausible (e.g. it might not be plausible that 80% of the Flemish public is for the independence of Flanders). In this way, it was ensured that the experimental stimulus embedded in the survey itself was externally valid (Shadish, Cook & Campbell, 2002). Another aspect directly related to the external validity of the experiment performed was that the individuals studied were not selected from a student population (Barabas & Jerit, 2008), but instead selected from an online access panel. Although methodological problems may bias the representativeness of the results to the general public, at least such a panel consisted of a broader group of the population than mere (under)graduate students who are often used as subjects for experiments.

Another limitation of the controlled experiment in this dissertation was the use of a short time lag between the pretest and first post-test, which were respectively measured at the beginning and the end of the experimental survey. This could have cued people to give responses in the post-test consistent to their responses in the pretest, and hence may have suppressed actual poll effects. Despite this, small, but significant, differences in the perceptions of collective opinion were observed, which indicate that people used the poll information provided by the researcher during the survey. This may indicate poll effects on perceptions of collective opinion, but may also suggest that people used the provided information about collective opinion to decrease their uncertainty in estimating this collective opinion. Especially the use of percentage scales on which people had to estimate perception of collective opinion may be a difficult task for respondents, because an exact percentage had to be responded. This indicates that further research is needed about how people perceive collective opinion, as well as to what degree people are able to formulate this perception in an exact percentage figure. Despite these limitations about the measurement of the perceptions of collective opinion, effects on these perceptions observed in an initial experiment were replicated in a second experimental survey wave. Moreover, they were not only observed after the initial exposure to the poll information but also in the second post-test, which was measured three months later. But it should be acknowledged that the effect was muted, and that other explanations could account for the observed findings (such as differences in media exposure between the groups in the second survey wave). An extensive content analysis of the news between the experimental survey waves, as well as the inclusion of questions about actual exposure

and attention to these poll publications in the second wave would have strengthened the research design to study the duration of poll effects over time.

9.2.4. Natural experiment on poll effects

The advantage of the use of a natural experiment in Chapter 8 of Part II was that poll effects could be studied in a more natural setting than in the controlled experiment, in which poll information was provided by the researcher to the respondents. Whereas a controlled experiment has a higher internal validity or control by the researcher (i.e. more certainty about effects due to the provided poll information), a natural experiment has a higher external validity or realism (i.e. generalization to real world phenomena; Barabas & Jerit, 2008; Shadish, Cook & Campbell, 2002). Indeed by a natural experiment, it can be accounted for respondents who would have used the provided poll information in their responses during the survey, but who would not have paid attention to this poll information in the 'real' world. Such exposure and attention to media messages are however prerequisites of being influenced by them (Slater, 2004; Chaffee & Schleuder, 1986). However, it schould be noted that the natural field experiment performed did not include a pretest, mainly because of budgetary reasons. Moreover, cooperation with pollsters to have information about poll results that will be published might be necessary to include such a pretest.

An important disadvantage of the natural field experiment might have been that there was less control over the actual exposure to polls in the news, than in a laboratory experiment. Indeed, survey responses about exposure to polls were used to post-hoc classify respondents in a quasi-experimental and quasi-control group. As aforementioned, bias may have occurred in people's self-reports of exposure. For that reason, there was the possibility that people who said they had noticed particular polls in the news actually did not have noticed these polls. For example, the inclusion of mock poll information showed that a lot of respondents noticed these polls, while they did not exist. However, the mock poll that was most frequently noticed was related to an issue that previously received a lot of media-attention. This does not mean that people lied in their responses, but it indicates the difficulty for people to distinguish between their exposure to general news media content about an issue and specific polls reported in the news. Further research should take this comment into account in order to disentangle poll effects from media effects.

Furthermore, a common problem for a natural experiment are initial differences between the quasi-experimental groups with regard to background characteristics, such as age, gender and education. To address these between-group differences, propensity score adjustment weights were applied, which made the groups similar for their background characteristics. In this way, it can be accounted for the lack of random assignment in a quasi-experiment (Rosenbaum & Rubinstein, 1983; 1984; D'Agostino & Rubin, 2000; Yanovitzky et al., 2005; Fraas et al., 2006). However, such weighting techniques should not be used blindly in the assumption that all initial imbalance is taken into account, as this greatly depends on the covariates used in the propensity score calculation. For reasons of transparency and to evaluate the impact of this propensity score adjustment on the findings, Chapter 8 reported both unweighted and PSA-weighted results. This showed that there were only small differences in the findings due to weighting.

Based on the research methods applied to empirically study poll effects on opinions, the ideal research design proposed would be to perform a natural field experiment in a longitudinal research design, with regular survey moments. In this way, personal opinions, perceptions of collective opinion, news media exposure, attention to polls and knowledge of poll results can be closely monitored over a longer period of time. In regular survey waves, opinions and specific questions about the polls that appeared in the news media can be asked so that over-time change can be investigated more closely. Based on the suggestion that perceptions of collective opinion may fluctuate more than personal opinions, a design should be applied that may also discover actual changes in the personal opinions. Accordingly, the most ideal research situation would be to study the formation of new opinions about a particular issue in the public (e.g. which was the case for anti-smoking attitudes or opinions about environmental issues), while registering how news media report on this issue before and after such opinions were formed. Additionally, the number of polls and the kind of questions surveyed in these polls about the particular issue should be taken into account, as well as the broader public debate about it. In such a case, it might be possible to better disentangle causal relationships between personal opinions and perceptions of collective opinion, but also between news media exposure and personal opinions.

9.3. Recommendations for news media, pollsters, policy-makers, public and public opinion scholars

Close interrelationships were described between news media, polls and opinions (Part I), and indications of effects from exposure to poll publications on perceptions of collective

opinion were empirically demonstrated (Part II). These observations have implications for the way in which public opinion research is conducted, reported and perceived. Therefore, recommendations can be formulated for pollsters, news media, policy-makers, the public and public opinion researchers, respectively.

Firstly, a recommendation for pollsters is to accurately measure the passive mass opinion of the general public by the implemented polling technique, taking into account methodological quality-guidelines which require minimal influence from the polling methodology on the survey responses obtained. For example, one of the objectives of Febelmar (2009), the professional association of market research bureaus in Belgium is to encourage a correct implementation of deontological guidelines of accurately performing opinion research, and in particular regarding the collection and analysis of data, as well as the publication of research reports. This requires in addition to an accurate measurement of the mass opinion, a transparent reporting of the methodological poll information, which is sent to news media. This indicates that poll publications are the outcome of an interplay between pollsters who provide methodological poll information, and news media who report upon them. Accordingly, this suggests that the provision of methodological poll information in news reports is a shared responsibility between pollsters who measure the opinions of the public and news media who report these poll results as news.

Therefore, secondly, a recommendation for news media is to accurately report upon poll results, in terms of taking into account methodological disclosure standards which prescribe transparency of the methodological poll information. Differences in size and budget may not make it possible for Flemish news redactions to incorporate professional polling divisions such as in the American news organizations. But an alternative proposal may be to have at least one person at each news redaction who is responsible for the methodological evaluation of the opinion polls commissioned by the news media themselves, as well as those received from external organizations. This requires a good training in social scientific methods and knowledge of polling limitations for journalists. Appendix F contains an overview of the statistical and methodological courses taught in journalistic education in Flanders. It shows that especially the methodology courses in the professional bachelor education in the colleges of higher education could be improved. The academic bachelors in communication science, on the other hand, mostly contain such courses, though they may not directly educate journalists. Therefore, in particular the range of short-term training courses or workshops for journalists could be extended so that existing journalists, or those not coming from traditional journalistic education

disciplines gain knowledge about the methodology behind poll numbers. Furthermore, such short-term trainings can easily incorporate new developments in opinion research techniques and how to report upon their results. Finally, a better interaction between news media and survey methodologists might broaden the discussion about what aspects should be and can be disclosed in news reports about polls. The currently general impression is that media report upon polls and that survey methodologists at universities subsequently criticize them, while a better interaction between them from the beginning could prevent such criticisms afterwards. This implies taking into consideration not only methodological quality criteria, but also news criteria and media interests. Only then, disclosure guidelines that are adapted to the news environment may be eventually better implemented by the news media in their poll reports.

Thirdly, a recommendation for policy-makers is to not blindly use poll results as an indication of the 'agreement' in mass opinion of the general public. As demonstrated by various questionnaire experiments (e.g. Schuman & Presser, 1981; Bishop, 1987; Billiet, Loosveldt & Waterplas, 1988; 1995), small modifications in the survey questionnaire can lead to major differences in the survey results obtained. For example, whether a middle alternative was provided or not could show a more or less pronounced 'majority' in the public. In this way, a biased indication of mass opinion may reach policy-makers through the media. Therefore, cautiousness is recommended to base policy-decisions based on these polls published.

Fourthly, a recommendation for the public is to be better trained in general media-literacy, as well as polling terminology. For example, Lavrakas et al. (1991) found that people do not seem to understand the margin-of-error, which is however a frequently used term in news reports to describe poll results. An example to improve basic education in the evaluation of news reports is 'The News Literacy Project' in the US which is a non-profit organization that aims to teach middle and high school students how to be effective news consumers[67]. Such teaching material, adapted to the news media situation in Flanders in general, and to specific examples of poll publications in the Flemish news media in particular, might be very useful to educate people in how to perceive (poll) publications.

And finally, a recommendation for scholars in the field of public opinion research is that this subject should be studied more frequently from an interdisciplinary point of view. At

[67] Further information about this project can be found online at: www.thenewsliteracyproject.org

present, public opinion researchers work from different departments, such as communication science, political science, sociology, psychology and methodology. Each of the different disciplines has its own focus, literature and methods that makes an integration not easy, though not impossible, which conferences such as from WAPOR and AAPOR illustrate.

9.4. Final conclusion

Close interrelationships have been described between news media, polls and opinions, based on a historical review of public opinion polling, an empirical analysis of newspaper articles about polls, theoretical perspectives about individual opinion formation and expression, as well as on the basis of three case studies of opinion poll techniques. Subsequently, implications of these interrelations for individual opinions were empirically investigated. More specifically, the path analysis of ESS-data about general news media exposure, the survey experiment about controlled exposure to specific polls and the natural field experiment about exposure to specific poll publications in the news indicated that poll publications can have effects on perceptions of collective opinion, as well as on knowledge about poll results. Due to the significant relationship between collective perceptions and personal opinions observed, indirect effects of poll publications on personal opinions through perceptions of collective opinion could be suggested, though they were found to be rather weak.

The effects observed from poll publications on individual opinions may appear small, but it should be noted that in general only limited media-effects can be expected. On the one hand, this is due to selection processes in the audience about being exposed to media-messages, paying attention to them, accepting them and subsequently integrate them into individual opinion formation (see de Boer & Brennecke, 2003). Therefore, only very small subgroups in the general public may be affected by poll publications. Furthermore, direct effects of media on opinions might be weakened if influence works through opinion leaders, who are generally more politically interested and pay potentially more attention to poll news than the mass public (Katz, 1957; Lazarsfeld et al., 1948). But it should be noted that in the present study no support was found for differential poll effects due to political interest and opinion strength. Finally, it was focused on poll publications in news media, which is however only one source of information about collective opinion, besides interpersonal communication with friends and family, as well as social gatherings in groups from which people may infer their perceptions of collective opinion and form their personal opinions. On the other hand, the observation of only small effects may be due

to methodological limitations of the study. Thus, unfortunately, some questions still remain unanswered and need to be addressed in future research…

For example, the focus of this dissertation was limited to passive mass opinion, which can be considered only one form of the more broader concept of public opinion. Indeed, the focus was on the quantitative measurement of opinion responses, of which the aggregation provides an indication of the opinion distribution in the general mass public. However, apart from the aggregation of individual opinion responses, public opinion can comprise opinions from groups, elites and media, which may add meaning to the public opinion concept that cannot be grasped by the mere sum of individual opinions measured by polls. For this, in-depth interviews or focus group conversations with politicians, interest-groups and journalists in Flanders can provide additional information about the more active form of public opinion. In particular, it may provide information about how the concept of public opinion is perceived by these groups (e.g. similar to the study of Herbst, 1998), to what degree opinion polls play a role in this public opinion formation according to them, and to what degree they deliberately use opinion polls to form public opinion. Furthermore, such a study about active public opinion can take into account weights that are attributed to particular opinions and groups in society that actively participate in the public opinion formation in Flanders.

Additionally, the present dissertation was limited to the investigation of effects from poll publications on individual opinions. Thus, effects were studied from a specific media-message, poll publications (stimulus) on individual opinions (audience response). This might be a naïve viewpoint on media-effects. Indeed, the study of one-way effects from news media on individuals did not take into account the influence from individual opinions on news media content. For example, opinions from some individuals, such as from interest groups, may affect the news reports, and in particular the reporting of poll results. Furthermore, it was not studied whether and to what degree poll results have an influence on policy-decisions or political actions. Only the perceived influence suggested in poll reports was registered, but the actual content of, for example, proposed bills by politicians or parliamentary recordings of political discussions were not studied for references to opinion polls that previously appeared in the news media.

A final note is that if opinion polls are considered as ‘harmless hullabaloo’ (Von Hoffman, 1980, p. 573), the question is why news media and politicians occasionally put great weight on them and use them in the broader public debate. If polls are indeed just for

fun, they could be published at the same page of astronomy in newspapers, rather than at the front page or within the regular news section. Whereas electoral polls are often compared to the actual election outcome to criticize publicly the quality of the polls conducted, polls about general issues generally lack such a harsh test. However, also this type of opinion polls on general issues should be taken into consideration when discussing the quality of polls published. This recommendation becomes more important because indications of effects from exposure to poll publications on the perceptions of collective opinion were observed.

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Appendix A Chapter 2

Table A-1: Methodological disclosure of poll-dominant articles per paper, per day, per poll

Disclosure of methodological poll information	2000 (n=103)		2002 (n=156)		2004 (n=258)		2006 (n=524)		2000-2006 (n=1041)	
Specific information	%	(n)	%	(n)	%	(n)	%	(n)	%	(n)
General poll information										
a) Name of polling institute	37.86	(39)	21.79	(34)	16.67	(43)	15.65	(82)	19.02	(198)
b) Name of sponsor	42.72	(44)	33.97	(53)	18.99	(49)	14.31	(75)	21.23	(221)
c) Target population	23.30	(24)	9.62	(15)	10.08	(26)	4.39	(23)	8.45	(88)
Sample information										
d) Exact sample size	47.57	(49)	50.00	(78)	45.74	(118)	34.92	(183)	41.10	(428)
e) Sample procedure	1.94	(2)	3.21	(5)	1.55	(4)	3.05	(16)	2.59	(27)
Data collection information										
f) Poll method	21.36	(22)	14.74	(23)	18.99	(49)	13.36	(70)	15.75	(164)
g) Exact fieldwork dates	18.45	(19)	8.33	(13)	13.18	(34)	9.54	(50)	11.14	(116)
h) Exact question wording	0	(0)	5.77	(9)	6.59	(17)	4.77	(25)	4.90	(51)
Less specific information	%	(n)	%	(n)	%	(n)	%	(n)	%	(n)
a/b) Pollster	91.26	(94)	91.03	(142)	88.37	(258)	68.13	(524)	73.56	(821)
g) Time indication	38.83	(40)	19.23	(30)	26.74	(69)	14.50	(76)	20.65	(215)
h) Questionnaire	12.62	(13)	14.74	(23)	20.54	(53)	21.56	(113)	19.40	(202)

Note: The numbers for the less specific information also include those of the specific information

Appendix B Chapter 4

Table B-1: Summary of variables with reference to question wordings of ESS (2006), used in the comparisons with the online access panel survey

Variable	Number - label of core ESS-questionnaire (Source: ESS, 2006)
Factual questions	
Living area	F5 - DOMICIL; recoded into 1=(sub)urban (if big city, outskirts of big city, small city), 0=rural (if town, house in the countryside)
Work	E47 - PDWRKCR
Attitudinal questions about work satisfaction	
Satisfaction with current work	E48 - STFJB
Satisfaction with time balance paid job - other activities	E49 - STFJBOT
Frequency of job is interesting	E50 - JBINTR
Frequency of job causes stress	E51 - JBSTRS
Attitudinal questions about political interest and complexity	
Political interest	B1 - POLINTR
Frequency politics complicated	B2 - POLCMPL
Difficulty political opinion formation	B3 - POLDCS
Attitudinal questions about immigrants	
Allow people of the same race or ethnic group	B35 - IMSMETN
Allow people of different race or ethnic group	B36 - IMDFETN
Allow people from the poorer countries outside Europe	B37 - IMPCNTR

Note: Identical questions to the ESS were surveyed in the online access panel survey

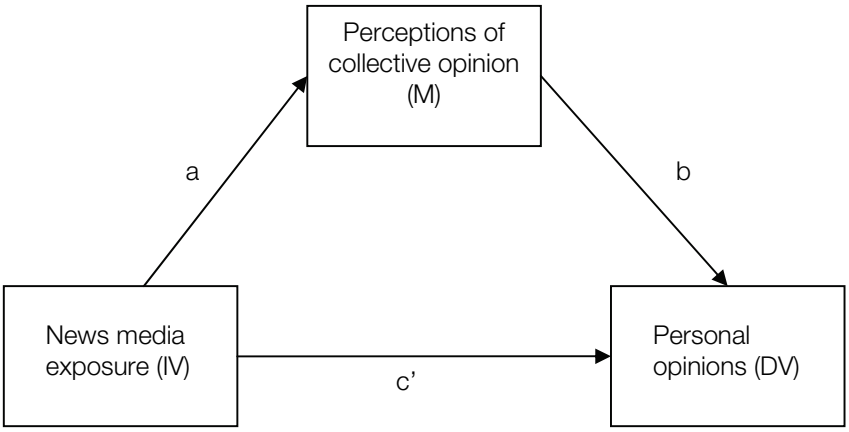
Appendix C Chapter 6

Table C-1: Summary of variables with reference to question wordings of ESS (2009); and question wordings for additional questions included in ESS (translated from the original questionnaire in Dutch), used in the path analyses

Variable	Description of additional questions included in ESS-questionnaire, Part V / Number - label of core ESS-questionnaire (Source: ESS, 2009)
Personal opinion	
Independence of Flanders	'We would like you to indicate how much you agree or disagree with the statement that Flanders should become independent.' Answer categories: 1. Strongly agree / 2. Agree / 3. Neither agree, nor disagree / 4. Disagree / 5. Strongly disagree / Don't know (reverse coded)
Immigration policy	B37 - IMPCNTR
Social services	D27 - SBLAZY
Perception of collective opinion	
Independence of Flanders	'In your opinion, what percentage of Flemish people favours the independence of Flanders?' (0-100%)
Immigration policy	'In your opinion, what percentage of Flemish people says that Belgium should not allow any or only allow a few people from poorer countries outside Europe to come and live in Belgium?' (0-100%)
Social services	'In your opinion, what percentage of Flemish people agrees with the statement that social services make people lazy?' (0-100%)
Opinion strength	
	'If elections were held today, how important would you rate each of the issues below in deciding your vote?' Answer categories: 1. Very important / 2. Somewhat important / 3. Neither important, nor unimportant / 4. Somewhat unimportant / 5. Very unimportant / Don't know (reverse coded) Issues: 'Social services'; 'the Independence of Flanders'; 'Immigration policy'
Questions about opinion polls	
Poll attention	Answer categories: 1. (Almost) never / 2. Sometimes / 3. Regularly / 4. Very often / Don't know
Attention to electoral polls	'Occasionally, opinion polls are performed to find out people's intention to vote. How often during the last weeks have you received information about such opinion polls, or their results in newspaper, on radio and television?'
Attention to polls about general issue	'Occasionally, opinion polls are also performed to find out people's opinion about a general issue. How often during the last weeks have you received information about such opinion polls, or their results in newspaper, on radio and television?'
Interest in poll news	'How interested would you say you are in news about opinion polls?' Answer categories: 1. Very interested / 2. Quite interested / 3. Hardly interested / 4. Not at all interested / Don't know
Perceived poll influence	Answer categories: scale from 0=no influence at all, to10=a lot of influence / Don't know
On politics	'To what degree do you think opinion polls have an influence on politics? You can give your answer on this scale between 0 and 10; 0 means no influence at all and 10 means a lot of influence' /

	Don't know
On public opinion	'To what degree do you think opinion polls have an influence on public opinion?'
On one's opinion	'To what degree do you think opinion polls have an influence on your own opinion?'
Perceived poll reliability	'In your opinion, how good do opinion polls represent the opinion of the public?' Answer categories: 1. Very good / 2. Good / 3. Moderate / 4. Bad / 5. Very bad / Don't know
Frequency of news media use	
Watching television news	A2 – TVPOL
Reading about politics in newspapers	A6 – NSWPPOL
Political interest	B1 – POLINTR

Figure C-1: Illustration of the simple mediation model to test the indirect effect of news media exposure on personal opinions through perceptions of collective opinion



Note: IV stands for Independent Variable; DV for Dependent Variable; and M for Mediator. Arrow a and b constitute the indirect effect or mediation (IV → M → DV), while c' refers to the direct effect (IV → DV) under control of the indirect effect

Table C-2: Exploration of additional inclusion of age and education in path analysis

Direct Path		Independence of Flanders				Immigration policy				Social services			
		β_{TV}		β_{NP}		β_{TV}		β_{NP}		β_{TV}		β_{NP}	
1	News media exposure → Personal opinion	0.026		-0.058	†	0.011		-0.048		-0.025		-0.012	
2	News media exposure → Perception of collective opinion	-0.066	*	0.032		-0.055	†	0.046		-0.084	**	0.013	
3	Perception of collective opinion → Personal opinion	0.392	***	0.391		0.134	***	0.135	***	0.189	***	0.191	***
4	Poll attention → Perception of collective opinion	-0.032		-0.041		0.007		-0.003		0.022		0.015	
5	Covariance Political interest (E_a) <> News media exposure (E_b)	0.231	***	0.265	***	0.238	***	0.264	***	0.227	***	0.2565	***
6	News media exposure → Poll attention	0.062	†	0.162	***	0.065	*	0.156	***	0.056	†	0.156	***
7	Political interest → Poll attention	0.204	***	0.168	***	0.224	***	0.190	***	0.215	***	0.179	***
8	Political interest → Personal opinion	-0.039		-0.013		-0.169	***	-0.150	***	-0.0601	†	-0.063	†
9	Political interest → Perception of collective opinion	0.002		-0.024		-0.017		-0.045		0.030		0.0051	
10	Age → Political interest	0.098	***	0.098	***	0.095	***	0.095	***	0.089	***	0.089	***
11	Education → Political interest	0.314	***	0.314	***	0.326	***	0.326	***	0.334	***	0.334	***
12	Age → News media exposure	0.364	***	0.17	***	0.361	***	0.174	***	0.357	***	0.175	***
13	Education → News media exposure	0.129	***	0.220	***	0.146	***	0.226	***	0.142	***	0.223	***
14	Age <> Education	-0.335	***	-0.335	***	-0.341	***	-0.341	***	-0.339	***	-0.339	***
n		981		981		996		996		982		982	
R^2 personal opinion		0.154		0.156		0.047		0.045		0.040		0.041	
R^2 perception of collective opinion		0.006		0.003		0.003		0.004		0.008		0.001	
R^2 poll attention		0.047		0.058		0.056		0.065		0.050		0.061	
R^2 political interest		0.088		0.088		0.094		0.094		0.099		0.099	
R^2 news media		0.118		0.052		0.116		0.054		0.113		0.054	
Goodness-of-fit index (GFI)		0.996		0.996		0.996		0.996		0.996		0.996	
Adjusted goodness-of-fit index (AGFI)		0.986		0.986		0.986		0.986		0.972		0.971	
Root mean square error of approximation (RMSEA)		0.027		0.027		0.027		0.027		0.027		0.027	
Normal fit index of Bentler & Bonett (NFI)		0.981		0.978		0.941		0.939		0.952		0.948	
Chi^2 value (df=7)		12.03		13.09		33.43		32.31		25.45		25.93	
p		.0995		.0699		<.0001		<.0001		.0006		.0005	

Appendix D Chapter 7

Table D-1: Summary of variables and question wordings (translated from the original questionnaire in Dutch), used in the experimental between-group comparisons

Variable	Description
Group	0=control group (Reference category) / 1=experimental group
Personal opinion	
(pretest; wave 1)	'We would like you to indicate how much you agree or disagree with each statement below'. Answer categories: 1. Strongly agree / 2. Agree / 3. Neither agree, nor disagree / 4. Disagree / 5. Strongly disagree / Don't know
Independence of Flanders (t_{11})	Item 1: 'Flanders should become independent.' (reverse coded) Item 2: 'It is better not to split Belgium.'
Retirement income (t_{11})	Item 1: 'I do not know whether my income in old age will be enough to pay extra health-care costs.' (reverse coded) Item 2: 'I have a good knowledge of my retirement income and extra health-care costs.'
Immigration policy (t_{11})	Item 1: 'Belgium should not allow any or only allow a few people from poorer countries outside Europe to come and live here.' (reverse coded) Item 2: 'Belgium should allow many people from poorer countries outside Europe to come and live here.'
Additional topic (t_{11}): terrorism	'I am afraid of a terrorist attack in Belgium.'
(pretest; wave 2)	'How much do you agree or disagree with: (…statements below)' Answer categories: 1. Strongly agree / 2. Agree / 3. Neither agree, nor disagree / 4. Disagree / 5. Strongly disagree / Don't know (reverse coded)
Health-care solidarity (t_{21})	'… healthy people have to contribute for sick people.'
Purchasing power (t_{21})	'… your purchasing power has decreased compared with a year ago.'
(post-test; wave 1 & 2)	'How much do you agree or disagree with: (…statements below)' Answer categories: 1. Strongly agree / 2. Agree / 3. Neither agree, nor disagree / 4. Disagree / 5. Strongly disagree / Don't know (reverse coded)
Independence of Flanders (t_{12})	'…Flanders should become independent.'
Retirement income (t_{12})	'…I do not know whether my income in old age will be enough to pay extra health-care costs.'
Immigration policy (t_{12})	'…Belgium should not allow any or only allow a few people from poorer countries outside Europe to come and live here.'
Health-care solidarity (t_{22})	'… healthy people have to contribute for sick people.'
Purchasing power (t_{22})	'… your purchasing power has decreased compared with a year ago.'
Perception of collective opinion	
(pretest;post-test(s);wave 1&2)	
Independence of Flanders (t_{11}; t_{12}; t_{23})	'In your opinion, what percentage of Flemish people favours the independence of Flanders?' (0-100%)
Retirement income (t_{11}; t_{12}; t_{23})	'In your opinion, what percentage of Belgians does not know whether their income in old age will be enough to pay extra health-care costs?' (0-100%)
Immigration policy (t_{11}; t_{12}; t_{23})	'In your opinion, what percentage of Flemish people says that Belgium should not allow any or only allow a few people from

	poorer countries outside Europe to come and live in Belgium?' (0-100%)
Health-care solidarity (t_{21}; t_{22})	'In your opinion, what percentage of Flemish people agrees that healthy people have to contribute for sick people?' (0-100%)
Purchasing power(t_{21}; t_{22})	'In your opinion, what percentage of Belgian employees says that their purchasing power has decreased compared with a year ago?' (0-100%)
Opinion strength	
(wave 1 & 2)	'If elections were held today, how important would you rate each of the issues below in deciding your vote?' Answer categories: 1. Very important / 2. Somewhat important / 3. Neither important, nor unimportant / 4. Somewhat unimportant / 5. Very unimportant / Don't know (reverse coded)
Issues wave 1	'Independence of Flanders'; 'Financing retirement income'; 'Immigration policy'; 'Terrorist attack in Belgium'
Issues wave 2	'Solidarity in the health-care system'; 'Immigration policy'; 'Purchasing power'; 'Independence of Flanders'
Questions about opinion polls	
(wave 1)	
Poll attention	Answer categories: 1. (Almost) never / 2. Sometimes / 3. Regularly / 4. Very often / Don't know
Attention to electoral polls	'Occasionally, opinion polls are performed to find out people's intention to vote. How often during the last weeks have you received information about such opinion polls, or their results in newspaper, on radio and television?'
Attention to polls about general issue	'Occasionally, opinion polls are also performed to find out people's opinion about a general issue. How often during the last weeks have you received information about such opinion polls, or their results in newspaper, on radio and television?'
Interest in poll news	'How interested would you say you are in news about opinion polls?' Answer categories: 1. Very interested / 2. Quite interested / 3. Hardly interested / 4. Not at all interested / Don't know
Degree of informative poll reports	'Compared with other news reports, how informative do you find news reports about opinion polls? You can give your answer on this scale between 0 and 10; 0 means not at all informative and 10 means very informative' / Don't know
Perceived poll influence	Answer categories: scale from 0=no influence at all, to 10=a lot of influence / Don't know
On politics	'To what degree do you think opinion polls have an influence on politics? You can give your answer on this scale between 0 and 10; 0 means no influence at all and 10 means a lot of influence' / Don't know
On public opinion	'To what degree do you think opinion polls have an influence on public opinion?'
On one's opinion	'To what degree do you think opinion polls have an influence on your own opinion?'
Perceived poll reliability	Answer categories: 1. Very good / 2. Good / 3. Moderate / 4. Bad / 5. Very bad / Don't know
For electoral polls	'In your opinion, how good do opinion polls represent the support for various parties?'
For polls about general issue	'In your opinion, how good do opinion polls represent the opinion of the public about general issues?'
Statements	'Below, some statements about opinion polls are presented. Could you indicate how much you agree or disagree with each

	statement?' Answer categories: 1. Strongly agree / 2. Agree / 3. Neither agree, nor disagree / 4. Disagree / 5. Strongly disagree / Don't know 'Results of opinion polls are often misused.' 'Most of the time, media depict results of opinion polls accurately.' 'The results of opinion polls are always reliable.'
Poll information provided to experimental group	
(wave 1 & 2)	'Below you will find information about opinion polls that was published in the media. Could you indicate whether you learned this information from newspaper, radio or television in the previous months?' Answer categories: 1. Yes / 2. No / Don't know
Independence of Flanders (wave 1)	'An opinion poll commissioned by VRT and De Standaard revealed in November that 12% of the Flemish people favour the independence of Flanders.'
Retirement income (wave 1)	'In October, an opinion poll sponsored by the assurance company Swiss-Life showed that 30% of the Belgians do not know whether their income in old age will be enough to pay extra health-care costs.'
Immigration policy (wave 1)	*(unpublished in media before)* 'In the European Social Survey of 2006, 43% of the Flemish people says that Belgium should not allow any or only allow a few people from poorer countries outside Europe to come and live in Belgium.'
Additional topic (wave 1): Terrorism	'In September, the question of the day on De Standaard Online showed that 35% of the Belgians are afraid of a terrorist attack in Belgium.'
Health-care solidarity (wave 2)	'An opinion poll about feelings of solidarity, commissioned by the Christelijke Mutualiteit (CM) showed in March that 81% of the Flemish people agrees that healthy people have to contribute for sick people.'
Purchasing power (wave 2)	'In April, a poll sponsored by the socialist trade ABVV showed that 47% of the Belgian employees say that their purchasing power has decreased compared with a year ago.'
Additional topic (wave 2): Political trust	'A poll commissioned by the weekly magazine Humo showed in April that 15% of the Flemish people trusts the policy-makers.'
Estimation of poll reliability (wave 1 & 2)	'Could you indicate for each piece of information that was obtained by opinion polls to what degree you find it reliable, unreliable or that you can not evaluate it?' Answer categories: 1. Very reliable / 2. Somewhat reliable / 3. Neither reliable, nor unreliable / 4. Somewhat unreliable / 5. Very unreliable / Don't know [each poll information of previous question was repeated]
Buffer questions provided to control group	
Attitudes and behaviour about environment (wave 1)	'To prevent environmental pollution in Flanders, people may or may not be willing to make certain efforts. Could you indicate which of the two statements below comes closest to your own opinion?' Answer categories: 1. I am willing to pay an extra environmental tax / 2. I am not willing to pay an extra environmental tax / Don't know 'Which of the following two statements comes closest to your own opinion?' Answer categories: 1. I am willing to pay an environmental tax on contaminating products / 2. I am not willing to pay an environmental tax on contaminating products / Don't know 'Could you indicate for each of the following aspects whether you do them never, seldom, occasionally, regularly, always or almost

	always?' Answer categories: 1. Never / 2. Seldom / 3. Occasionally / 4. Regularly / 5. Always or almost always / Don't know 'Turn off the tap while washing hands, brushing teeth, shaving or doing the dishes' / 'Turn off electrical equipment' / 'Turn off the light when leaving a room' / 'Only heat those rooms where it is really necessary'
Feelings of (in)security (wave 1)	'How safe do you feel walking alone in your neighbourhood (direct vicinity or neighboorhoud where you live) after dark?' Answer categories: 1. Very safe / 2. Safe / 3. Unsafe / 4. Very unsafe / Don't know 'How often do you worry about a burglary at your home?' Answer categories: 1. Always or regularly / 2. Occasionally / 3. Seldom / 4. Never/ Don't know 'How often do you worry about being a victim of a violent crime? (With "violent crime" is meant 'with physical injury' or 'threat with physical violence'.)' Answer categories: 1. Always or regularly / 2. Occasionally / 3. Seldom / 4. Never / Don't know
Living conditions (wave 2)	'In what type of house do you live?' Answer categories: 1. Single family dwelling / 2. Apartment / 3. Studio / 4. Loft / 5. Room / 6. Other: … / Don't know 'Are you or someone else in your household owner of your current house?' Answer categories: 1. Yes / 2. No / Don't know 'Do you have central heating in your house?' Answer categories: 1. Yes / 2. No / Don't know 'A house can be isolated against loss of heat or noise pollution. Could you indicate whether the next things are (almost) everywhere present, not everywhere present or not at all present in your house?' Answer categories: 1. (Almost) everywhere present / 2. Not everywhere present / 3. Not at all present / Don't know 'Isolating glass' / 'Isolation of the roof' / 'Isolation of the walls' / 'Isolation of the pipes' / 'Isolation of the floor' / 'Radiator foil'
News media exposure	
Frequency of news media exposure (wave 1)	Answer categories: 0. No time at all / 1. Less than ½ hour / 2. ½ hour to 1 hour / 3. More than 1 hour, up to 1½ hours / 4. More than 1½ hours, up to 2 hours / 5. More than 2 hours, up to 2½ hours / 6. More than 2½ hours, up to 3 hours / 7. More than 3 hours / Don't know
Watching television news	'On an average weekday, how much time, in total, do you spend on watching news or programs about politics and current affairs on television?'
If watching > 0	'At which channel did you view the news the most often during the last weeks?' (one answer possible) Answer categories: 1. Eén / 2. Canvas / 3. VTM / 4. VT4 / 5. Local channel / 6. Other: … / Don't know
Listening to radio news	'On an average weekday, how much of your time, in total, do you spend on listening to news or programs about politics and current affairs on the radio?'
If listening > 0	'At which radio station did you listen to the news the most often during the last weeks?' (one answer possible) Answer categories: 1. Radio 1 / 2. Radio 2 / 3. Klara / 4. Studio Brussel / 5. MNM / 6. Joe FM (4FM) / 7. Q-Music / 8. Nostalgie / 9. Be one / 10. Local radio station / 11. Other: … / Don't know
Reading about politics in newspapers	'On an average weekday, how much time, in total, do you spend on reading about politics and current affairs in the newspapers?'

If reading > 0	'What newspaper did you read the most often during the last weeks?' (one answer possible) Answer categories: 1. Het Nieuwsblad - De Gentenaar / 2. Het Volk / 3. De Standaard / 4. De Morgen / 5. Gazet van Antwerpen / 6. Het Belang van Limburg / 7. De Tijd / 8. Het Laatste Nieuws - De Nieuwe Gazet / 9. Metro / 10. Other: … / Don't know
Political questions	
Political interest (wave 1 & 2)	'How interested would you say you are in politics?' Answer categories: 1. Very interested / 2. Quite interested / 3. Hardly interested / 4. Not at all interested / Don't know (classified in 3 categories: 1=high level of political interest; 2=moderate level of political interest; 3+4=low levels of political interest)
Difficulty of political opinion formation (wave 1)	'How difficult or easy do you find it to make up your mind about political issues (such as political debates, policy, controversies, etc.)?' Answer categories: 1. Very difficult / 2. Difficult / 3. Neither difficult, nor easy / 4. Easy / 5. Very easy / Don't know
Background characteristics	
Age (wave 1)	'In what year were you born? Year 19_ _'
Gender (wave 1)	'You are: 1. Male / 2. Female'
Paid work (wave 1 & 2)	'Do you currently have any form of paid employment?' Answer categories: 1. Yes (as employee, self-employed, temporary employee, service cheques, working for your family-business) / 2. No / Don't know
If paid work=yes (wave 1)	'Below, you find a list with different professional categories. In which category would you classify your main job? There is only one answer possible.' Answer categories: 1. Unskilled labourer / 2. Skilled labourer / 3. Employee / 4. Higher employee / executive / 5. Self-employed or trader / 6. Farmer / 7. Liberal profession / 8. Self-employed entrepreneur or wholesaler / Don't know
If paid work=no (wave 1)	'Which of the descriptions below applies best to your current working situation? There is only one answer possible.' Answer categories: 1. Retired (also early and pre-retirement) / 2. Doing housework, looking after children or other persons / 3. Permanently sick or disabled / 4. Unemployed / 5. Student, in education / 6. Other: … / Don't know
Education (wave 1)	'Below, some degrees and certificates are listed. What is the highest level of education that you have achieved?' Answer categories: 1. No degree, not completed primary education / 2. Primary education / 3. Lower secondary education / 4. Upper secondary education / 5. Post secondary, non-university education / 6. University education / 7. Doctoral, post-doctoral education / 8. Other: … / Don't know
Living area (wave 1 & 2)	'Which description depicts best the area where you live?' Answer categories: 1. A big city / 2.The suburbs or outskirts of a big city / 4. A country village / 5. A farm or house in the countryside / Don't know

Appendix E Chapter 8

Table E-1: Disclosure of methodological poll information per aspect, compared between 2004-2009 as well as between newspapers and television news

	Newspapers 2004 (n=166)		Newspapers 2009 (n=252)		Television news 2009 (n=51)		All news 2009 (n=303)	
Articles with polls as dominant focus	%	(n)	%	(n)	%	(n)	%	(n)
Specific information								
General poll information								
a) Name of polling institute	10.24	(17)	17.86	(45)	11.76	(6)	16.83	(51)
b) Name of sponsor	16.87	(28)	15.48	(39)	3.92	(2)	13.53	(41)
c) Target population	1.81	(3)	7.54	(19)	3.92	(2)	6.93	(21)
Sample information								
d) Exact sample size	22.29	(37)	52.38	(132)	17.65	(9)	46.53	(141)
e) Sample procedure	0.00	(0)	1.98	(5)	0.00	(0)	1.65	(5)
Data collection information								
f) Poll method	11.45	(19)	12.30	(31)	5.88	(3)	11.22	(34)
g) Exact fieldwork dates	6.63	(11)	4.37	(11)	0.00	(0)	3.63	(11)
h) Exact question wording	2.41	(4)	0.79	(2)	0.00	(0)	0.66	(2)
Less specific information								
a/b) Pollster	62.05	(103)	85.71	(216)	86.27	(44)	85.81	(260)
g) Time indication	14.46	(24)	12.30	(31)	7.84	(4)	11.55	(35)
h) Questionnaire	15.66	(26)	14.29	(36)	9.80	(5)	13.53	(41)

Note: Figures are based on news reports that dominantly focused on opinion polls (at least 60% of the article text was related to opinion polls)

Table E-2: Summary of variables and question wordings (translated from the original questionnaire in Dutch), used in the path analyses and quasi-experimental between-group comparisons

Variable	Description
Personal opinion	
Political trust	'Could you indicate on a scale from 0 to 10 how much you personally trust each of the following institutions? 0 means that you do not trust an institution at all, and 10 means you have complete trust.' Answer Scale: 0=no trust at all, to 10=complete trust / Don't know Institutions used to calculate scale of political trust: the Flemish government / the Belgian government / politicians / political parties Additional institutions: the legal system / the police / media / banks / education
Immigration policy	'We would like you to indicate how much you agree or disagree with each statement below'. Answer categories: 1. Strongly disagree / 2. Disagree / 3. Neither agree, nor disagree / 4. Agree / 5. Strongly Agree / Don't know Item 1: 'Migrants are generally not to be trusted.' Item 2: 'Migrants contribute to the welfare of our country.' (reverse coded) Item 3: 'Migrants come here to take profit of the social security system.' Item 4: 'Migrants are a threat for our culture and customs.' Item 5: 'The presence of different cultures is an enrichment of our society.' (reverse coded) Item 6: 'Most migrants are lazy, who try to avoid heavy and tiring work.' Item 7: 'Migrants are a threat for the employment of the Belgians.' Item 8: 'The way of living of migrants is incompatible with the Western-European way of living.'
Independence of Flanders	'We would like you to indicate how much you agree or disagree with each statement below'. Answer categories: 1. Strongly disagree / 2. Disagree / 3. Neither agree, nor disagree / 4. Agree / 5. Strongly Agree / Don't know Item 1: 'Flanders should become independent.' Item 2: 'A thorough state reform of Belgium should be implemented.' Item 3: 'The federal state should continue to exist but with more responsabilities for the communities and regions than today.' (reverse coded) Item 4: 'It is better not to split Belgium.' (reverse coded) Item 5: 'State reform is not important, politicians should better be occupied with the real problems of the people.' (reverse coded)
Additional topic: financial crisis	'We would like you to indicate how much you agree or disagree with each statement below'. Answer categories: 1. Strongly agree / 2. Agree / 3. Neither agree, nor disagree / 4. Disagree / 5. Strongly disagree / Don't know Item 1: 'Because of the current financial crisis I am very worried about my personal financial situation.' Item 2: 'The link between the salaries and the index should be preserved.' Item 3: 'I am afraid that I will have to slow down my expenses due to

	the decreasing purchasing power.' Item 4: 'In this economic crisis, the government should provide support for those people who loose their job.'
Perception of collective opinion	
Political trust	'In your opinion, what percentage of Belgians has trust in politicians?' (0-100%) 'According to you, has the trust in politics increased, decreased or stayed constant in the last years? 1. Increased / 2. Decreased / 3. Stayed constant / Don't know
Immigration policy	'In your opinion, what percentage of Belgians agrees that migrants come here to take profit of the social security system?' (0-100%) 'According to you, has the negative attitude towards migrants increased, decreased or stayed constant in the last years? 1. Increased / 2. Decreased / 3. Stayed constant / Don't know
Independence of Flanders	'In your opinion, what percentage of Flemish people favours the independence of Flanders?' (0-100%) 'According to you, has the group of people that is for the independence of Flanders increased, decreased or stayed constant in the last years? 1. Increased / 2. Decreased / 3. Stayed constant / Don't know
Opinion strength	
	Answer categories: 1. Very important / 2. Somewhat important / 3. Neither important, nor unimportant / 4. Somewhat unimportant / 5. Very unimportant / Don't know (reverse coded) Issues: 'Financial crisis'; 'Independence of Flanders'; 'Immigration policy'; 'Financing retirement income'; 'Environmental policy'
Personal opinions	'If elections were held today, how important would you rate each of the issues below in deciding your vote?'
Perceptions of collective opinion	'Despite you own opnion, how important do you think would other people in Flanders rate each of these issues below in deciding their vote?'
Political questions	
Political interest	'How interested would you say you are in politics?' Answer categories: 1. Very interested / 2. Quite interested / 3. Hardly interested / 4. Not at all interested / Don't know (reverse coded)
Difficulty of political opinion formation	'How difficult or easy do you find it to make up your mind about political issues (such as political debates, policy, controversies, etc.)?' Answer categories: 1. Very difficult / 2. Difficult / 3. Neither difficult, nor easy / 4. Easy / 5. Very easy / Don't know
Interpersonal discussion of politics	'How often do you discuss politics with friends and family?' Answer categories: 1. (Almost) always / 2. Often / 3. Occasionally / 4. Rarely / 5. Never / Don't know
News media exposure	
Frequency of news media exposure	Answer categories: 0. No time at all / 1. Less than ½ hour / 2. ½ hour to 1 hour / 3. More than 1 hour, up to 1½ hours / 4. More than 1½ hours, up to 2 hours / 5. More than 2 hours, up to 2½ hours / 6. More than 2½ hours, up to 3 hours / 7. More than 3 hours / Don't know
Watching television news	'On an average weekday, how much time, in total, do you spend on watching news or programs about politics and current affairs on television?'
If watching > 0	'At which channel did you view the news the most often during the last weeks?' (one answer possible) Answer categories: 1. Eén / 2. Canvas / 3. VTM / 4. Local channel / 5. Other: … / Don't know

Listening to radio news	'On an average weekday, how much of your time, in total, do you spend on listening to news or programs about politics and current affairs on the radio?'
If listening > 0	'At which radio station did you listen to the news the most often during the last weeks?' (one answer possible) Answer categories: 1. Radio 1 / 2. Radio 2 / 3. Klara / 4. Studio Brussel / 5. MNM / 6. Joe FM (4FM) / 7. Q-Music / 8. Nostalgie / 9. Be one / 10. Local radio station / 11. Other: … / Don't know
Reading about politics in newspapers	'On an average weekday, how much time, in total, do you spend on reading about politics and current affairs in the newspapers?'
If reading > 0	'What newspaper did you read the most often during the last weeks?' (one answer possible) Answer categories: 1. Het Nieuwsblad - De Gentenaar / 2. De Standaard / 3. De Morgen / 4. Gazet van Antwerpen / 5. Het Belang van Limburg / 6. De Tijd / 7. Het Laatste Nieuws - De Nieuwe Gazet / 8. Metro / 9. Other: … / Don't know
Questions about opinion polls	
Poll attention	Answer categories: 1. (Almost) never / 2. Sometimes / 3. Regularly / 4. Very often / Don't know
Attention to electoral polls	'Occasionally, opinion polls are performed to find out people's intention to vote. How often during the last weeks have you received information about such opinion polls, or their results in newspaper, on radio and television?'
Attention to polls about general issue	'Occasionally, opinion polls are also performed to find out people's opinion about a general issue. How often during the last weeks have you received information about such opinion polls, or their results in newspaper, on radio and television?'
Interest in poll news	'How interested would you say you are in news about opinion polls?' Answer categories: 1. Very interested / 2. Quite interested / 3. Hardly interested / 4. Not at all interested / Don't know
Perceived poll influence	Answer categories: scale from 0=no influence at all, to 10=a lot of influence / Don't know
On politics	'To what degree do you think opinion polls have an influence on politics? You can give your answer on this scale between 0 and 10; 0 means no influence at all and 10 means a lot of influence' / Don't know
On the opinion of others	'To what degree do you think opinion polls have an influence on public opinion?'
On one's own opinion	'To what degree do you think opinion polls have an influence on your own opinion?'
Perceived poll reliability	Answer categories: 1. Very good / 2. Good / 3. Moderate / 4. Bad / 5. Very bad / Don't know
For electoral polls	'In your opinion, how good do opinion polls represent the support for various parties?'
For polls about general issue	'In your opinion, how good do opinion polls represent the opinion of the public about general issues?'
Poll exposure	
(used to classify respondents into a quasi-experimental group and quasi-control group)	'Below you will find opinion polls that were published in the media during the previous months. Could you indicate whether you noticed these opinion polls certainly, maybe or not?' Answer categories: 1. Yes, certainly noticed / 2. Maybe noticed / 3. No, not noticed / Don't know

Political trust	Poll 1: 'The European Social Survey (ESS) about trust in politicians and political parties' Poll 2: 'Poll about trust in professions (such as firemen, teachers) from research bureau GfK'
Immigration policy	Poll 1: 'Research about islamophobia from the Institute of Social and Political Opinion research (Ispo) of the KULeuven' Poll 2: 'Survey about attitudes towards foreigners by the Centre for Equal Opportunities and Opposition to Racism (CGKR)'
Independence of Flanders	Poll 1: 'The broadly-based social survey called Flanders 09 of the VRT'
Mock polls	Poll 1: 'Poll about the youth's satisfaction concerning extracurricular sports activities from the umbrella society of Flemish sporting clubs.' Poll 2: 'Poll about the level of acceptance for euthanasia with heavily demented patients from the society of care for the elderly.'
Additional topics: financial crisis; rest homes	Poll 1: 'The great money-test about the financial crisis from research bureau iVOX.' Poll 2: 'Survey from the VRT-news redaction about opinions of Flemish people towards the crisis.' Poll 3: 'Survey from the socialist health care provider about paying bills from rest homes with a pension salary.' Poll 4: 'Survey about living in a rest home from the Christian health care provider.'
Knowledge of poll results	
	'Could you indicate for each of the following opinion polls that appeared in the media the correct poll result? You can select your answer from these categories: between 0 and 25 percent of the people, between 25 and 49 percent of the people, between 50 and 74 percent of the people or between 75 and 100 percent of the people. If you are not sure, you can give your best estimation.' Answer categories: 0-24% / 25-49% / 50-74% / 75-100% / Don't know Item 1: 'Percentage of Flemish people that worries about his or her personal financial situation' Item 2: 'Percentage of Flemish people that agrees with limiting the high salaries for top managers.' Item 3: 'Percentage of Belgians that says that some human races are more intelligent than others.' Item 4: 'Percentage of active Flemish people that wishes to stop working before the age of 60.' Item 5: 'Percentage of Flemish voters that agrees with the statement that Islamic values are a threat for Europe.' Item 6: 'Percentage of Belgians that has a high level of trust in bankers.' Item 7: 'Percentage of Flemish people that postpones big purchases, such as a house or a car.' Item 8: 'Percentage of Flemish voters that agrees with the statement that Muslim men dominate their women too much.' Item 9: 'Percentage of Flemish people that never wishes to live in a rest home.' Item 10: 'Percentage of Flemish people that is for a smoking ban in all catering establishments.' Item 11: 'Percentage of Belgians that says that foreigners cause more criminality in our country.' Item 12: 'Percentage of people that is able to pay the bill of a rest

	home with his or her pension salary.'
Background characteristics	
Age	'In what year were you born? Year 19_ _'
Gender	'You are: 1. Male / 2. Female'
Paid work	'Do you currently have any form of paid employment?' Answer categories: 1. Yes (as employee, self-employed, temporary employee, service cheques, working for your family-business) / 2. No / Don't know
Education	'Below, some degrees and certificates are listed. What is the highest level of education that you have achieved?' Answer categories: 1. No degree, not completed primary education / 2. Primary education / 3. Lower secondary education / 4. Upper secondary education / 5. Post secondary, non-university education / 6. University education / 7. Doctoral, post-doctoral education / 8. Other: … / Don't know
Partner	'Do you currently live together with a partner?' 1. Yes / 2. No / Don't know
Children	'Do you have children?' 1. Yes / 2. No / Don't know
If children=yes	'How many children live at your home?' __

Appendix F Chapter 8

Table F-1: Courses in social-scientific methods during education for journalists in Flanders (opinion poll methods, statistics, interpretation of poll results)

Institution	Education	Course (methods, statistics, poll-reports)
College of higher education		
Plantijn Hogeschool Antwerpen	Professional BA in journalism (3 years)	'Results and ICT' (6 points)
Erasmus Hogeschool Brussel	Professional BA in journalism (3 years)	Within a module of the first year ('Sources'): 'Research methods and statistics' (3 points)
	MA in journalism (1 year after BA)	/
Howest West-Vlaanderen / Kortrijk	Professional BA in journalism (3 years)	Within a module of the second year ('National reporting'): 'Statistical interpretation' (1 point)
Katholieke Hogeschool Mechelen	Professional BA in journalism (3 years)	/
Xios Hogeschool Limburg	Professional BA in journalism (3 years)	/
	Bachelor after bachelor in applied studies of journalism (1 year after BA)	/
Arteveldehogeschool Gent	Professional BA in journalism (3 years)	/
Lessius Hogeschool Antwerpen	MA in journalism (1 year after BA)	/
Vlekho/Hub Hogeschool Brussel	MA in journalism (1 year after BA)	/
Academic education at university		
Katholieke Universiteit Leuven	Academic BA in communication sciences (3 years)	During first year: 'Social statistics, with exercises' (8 points, 52 hours) and 'Methods and techniques of social-science research' (6 points) During second year: 'Quantitative data-analysis, with exercises' (6 points) During third year: Seminar with application of research methods (12 points)*
	MA in communication sciences (1 year after BA)	/

(Table continues on next page)

Institution	Education	Course (methods, statistics, poll-reports)
Universiteit Antwerpen	Academic BA in communication sciences (3 years)	During first year: 'Quantitative research methods' (6 points) and 'Statistics I' (6 points) During second year: 'Statistics II' (6 points) During third year: Seminar II and III with application of research methods (9 points)*
	MA in communication sciences (1 year after BA)	/
	Master after master in multilingual professional communication (1 year after MA)	Part of master-thesis: 'Research methods and techniques' (6 points)*
Universiteit Gent	Academic BA in communication sciences (3 years)	During first year: 'Methodology of the social sciences' (6 points) and 'Statistics' (6 points) During third year: Seminar with application of research methods (6 points)*
	MA in communication sciences, major in journalism (1 year after BA)	/
Vrije Universiteit Brussel	Academic BA in communication sciences (3 years)	During first year: 'Descriptive statistics' (6 points) During second year: 'Quantitative research methods' (4 points) During third year: optional course: 'Introduction in research methods for social sciences' (6 points)
	MA in communication sciences (1 year after BA)	/
Other education		
Instituut voor journalistiek, in cooperation with SYNTRA Brussel	Evening course (2 years; 7 hours per week)	One lesson is about 'Media-training' in which opinion polls in the media is a topic
Fontys Hogeschool journalistiek (Dutch), in Flanders (Antwerp)	Short-term training 'Journalistic correspondence' (12 hours)	/
Het Eiland Neus	Short-term training in 'Journalistic skills' and 'Journalistic writing'	/

Note: [situation in March 2009]: BA stands for Bachelor, MA stands for Master; 1 year generally consists of 60 study points

* Only some of the seminars / part of the courses focus on quantitative methods of social-science research

Summaries in Dutch & French

Samenvatting in het Nederlands

Dit doctoraat had als doel de onderlinge interrelaties tussen nieuwsmedia, peilingen en opinies, alsook de effecten van peilingpublicaties op individuele opinies te bestuderen. In het eerste deel werden de onderlinge relaties beschreven op basis van een historisch overzicht van ontwikkelingen in het publieke opiniepeilen en een inhoudsanalyse van krantenartikels over peilingen in de Vlaamse kranten tussen 2000 en 2006. In deze analyse werd een hoge media-aandacht voor en mediabetrokkenheid bij de gepubliceerde peilingen vastgesteld, evenals indicaties dat media nieuws 'maken' op basis van opiniepeilingen, omwille van spanningen tussen nieuwscriteria en methodologische standaarden van opinieonderzoek. Het is belangrijk dat een accurate presentatie van opiniepeilingen wordt gepubliceerd in de nieuwsmedia omdat het gevoerde literatuuronderzoek naar individuele opinievorming aantoont dat opinies in het publiek kunnen worden beïnvloed door zowel methodologie als media. Wat betreft de invloed van methodologie op opinies werden drie recente peilingtechnieken ('push polls', online dagelijkse peilingen en online panel peilingen) beschreven, omwille van de mogelijke invloed van hun vraagstelling en steekproefdesign op de bekomen opinieverdeling die vervolgens door de nieuwsmedia wordt verspreid als een indicatie van de publieke opinie.

In het tweede deel van het doctoraat werden de effecten van peilingpublicaties op individuele opinies empirisch bestudeerd. Ten eerste werden de effecten van blootstelling aan algemene nieuwsmedia op opinies bestudeerd door een padanalyse van de Europese Sociale Survey data, gebruikmakend van een theoretisch model op basis van de assumptie dat nieuwsmedia persoonlijke opinies indirect kunnen beïnvloeden, door eerst de percepties van collectieve opinie te beïnvloeden. Kleine indirecte effecten werden gevonden en de directe media-effecten verschilden tussen het lezen van kranten (wat voornamelijk gerelateerd was aan de persoonlijke opinies) en het kijken van televisienieuws (wat voornamelijk gerelateerd was aan de percepties van collectieve opinie). Ten tweede werden de effecten van blootstelling aan specifieke peilinginformatie op opinies getest in een experimentele enquête waarin aan een toevallig geselecteerde groep mensen peilinginformatie was verstrekt door de onderzoeker en aan een andere groep deze informatie niet was verstrekt. Er werd een peilingeffect gevonden op de percepties van collectieve opinie, maar niet op de persoonlijke opinies. Ten derde werden de inzichten verworven door de analyse van algemene survey data en het experiment met specifieke peilinginformatie geïntegreerd in een natuurlijk veldexperiment om

peilingeffecten in een meer natuurlijke context te bestuderen. Tijdens de pre-electorale periode voor de regionale verkiezingen in Vlaanderen in 2009 werd een inhoudsanalyse van de nieuwsberichten over peilingen in kranten en op televisienieuws uitgevoerd, op basis waarvan vervolgens een quasi-experimentele survey werd opgesteld. Padanalyses met specifieke indicatoren van blootstelling aan peilingnieuws toonden een significante relatie tussen peilingkennis en percepties van collectieve opinie. Verder werden significante verschillen in persoonlijke opinies geobserveerd tussen een quasi-experimentele groep die voordien was blootgesteld aan de peilingen die in het nieuws waren verschenen en een quasi-controlegroep, die niet was blootgesteld aan deze peilingen.

De nauwe onderlinge relaties tussen nieuwsmedia, peilingen en opinies, alsook de indicaties van peilingeffecten op de percepties van collectieve opinie, die significant samenhangen met persoonlijke opinies, hebben implicaties voor de manier waarop peilers publieke opinieonderzoek verrichten, de manier waarop nieuwsmedia over deze peilingen berichten en hoe politici en publiek deze vervolgens percipiëren.

Résumé en Français

Quelles sont les interrelations entre les médias, les sondages et l'opinion publique, et quels sont les effets de la publication de sondages sur l'opinion individuelle? Ces deux interrogations constituent le cœur de cette thèse.

Dans la première partie, les interrelations sont décrites par une évaluation historique de sondage sur l'opinion publique et par une analyse de contenu d'articles de journaux contenant des sondages publiés dans la presse flamande entre 2000 et 2006. Cette analyse montre une hausse dans l'attention et dans la participation des médias aux sondages, causés par des tensions entre les critères journalistiques et les normes méthodologiques en recherche scientifique. L'étude indique aussi la 'création' des nouvelles basée sur les sondages. Une représentation fidèle des sondages dans les médias est nécessaire car la recherche littéraire de la formation de l'opinion individuelle montre que les opinions du publique peuvent être influencées par la méthodologie employée et par les médias. Concernant l'impacte de la méthodologie sur les opinions, trois techniques de sondage récentes ont été analysées (« push polls », sondage journalier en ligne (online daily polls) et un panel volontaire en ligne (online direct access panel)), afin de discerner une influence potentielle du questionnaire et du plan d'échantillonnage sur la distribution d'opinion, qui est subséquemment publiée par les médias afin de donner une indication de l'opinion publique.

Dans la seconde partie de la thèse, les effets de la publication de sondages sur l'opinion individuelle ont été examinés empiriquement. Premièrement, les effets sur les opinions causées par l'exposition aux médias ont été étudiés par une analyse des coefficients de direction (path analysis) des données de l'European Social Survey. Les données ont été analysées à partir d'un modèle a priori basé sur l'hypothèse que les médias puissent indirectement affectées les opinions personnelles en influençant en premier la perception de l'opinion collectif. De faibles effets médiatiques ont été constatés et les effets directs étaient différents entre la presse écrite (surtout lié à l'opinion personnelle) et les journaux télévisés (surtout lié aux perceptions de l'opinion collective).

Secondement, les effets de l'exposition à l'information spécifique de sondage sur les opinions ont été testé à base d'un sondage expérimental. Dans ce teste deux groupes ont été comparés: un groupe sélectionné aléatoirement a été fourni par le chercheur avec de l'information de sondage, l'autre groupe n'a pas reçu cette information spécifique. L'expérimentation a révélé un effet sur la perception de l'opinion collective mais non pas sur l'opinion personnelle.

Troisièmement, les conclusions de l'analyse de données de sondage général et de l'expérimentation sur l'effet d'information de sondage ont été intégrés dans une expérimentation naturelle de terrain (natural field experiment), afin d'étudier les effets de sondage dans un contexte plus réaliste. Pendant la période pré-électorale, avant les élections régionales flamande de 2009, les publications de sondage dans la presse écrite et à la télévision ont été analysées sur leur contenu, et un sondage quasi-expérimentale a été conçu. L'analyse de chemin avec des indicateurs spécifiques concernant l'exposition au sondage suggère une relation signifiante entre la connaissance sur un sondage et la perception de l'opinion collective. En plus, des différences signifiantes dans l'opinion personnelle ont été perçues entre un groupe quasi-expérimental, qui étaient exposé naturellement aux sondages déjà parus dans les médias et un groupe de quasi-contrôle non exposé à ces sondages.

On peut donc conclure que l'étroite interrelation entre les médias, les sondages et les opinions d'une part et l'indication des effets de sondage sur la perception de l'opinion collective, qui est significativement lié a l'opinion personnelle, d'autre part ont des conséquences sur: la conduite de recherche par les sondeurs, sur la manière de rapportage de ces sondages par les médias et sur la perception par le publique et les décideurs politiques.